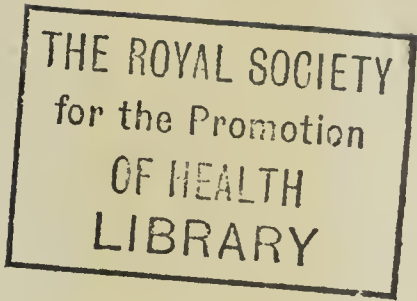


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1965

QUEENSLAND

ANNUAL REPORT

OF THE

HEALTH AND MEDICAL SERVICES

OF THE

STATE OF QUEENSLAND

FOR THE

YEAR 1964-65

PRESENTED TO PARLIAMENT BY COMMAND

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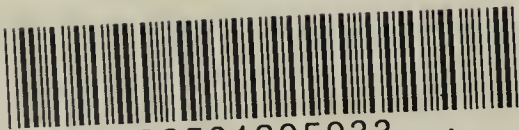
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ANNUAL REPORT OF THE DIRECTOR-GENERAL
OF HEALTH AND MEDICAL SERVICES 1964-65

The Honourable the Minister for Health

SIR,—I have the honour to submit for your information the Annual Report of the Health and Medical Services Branch of the Department of Health for the year ended 30th June, 1965.

ABRAHAM FRYBERG,
M.B., B.S. (Melb.), D.P.H., D.T.M. (Syd.),
Director-General of Health and Medical Services.

INTRODUCTORY REMARKS

STAFF

Dr. M. H. Gabriel was awarded a World Health Organization Fellowship for 1966. He will visit the United States of America, Canada, and Great Britain where he will study all aspects of public health, health education, and laws relating to food and drugs.

Dr. C. R. Boyce who retired from the position of Medical Superintendent, Brisbane Special Hospital, on 30th June joined the Division of Mental Hygiene in 1939. He served in Malaya during the war and rendered meritorious service as a prisoner of war. He was responsible for many innovations at the Brisbane Special Hospital and he will be long remembered by both patients and staff.

Mr. C. Cummins, F.R.C.S. (Edin.), F.R.A.C.S., resigned as Flying Surgeon in October, 1964, to enter private practice in Toowoomba. He was the first Flying Surgeon and to him must go the credit for the organization of a service which has given security in health to the people living in the remote areas of the State. He was succeeded by Mr. D. B. Leaming, F.R.C.S. (Eng.), M.S. (Univ. Durham), Reader, Department of Surgery within the University of Queensland.

The anaesthetist to the Flying Surgeon, Dr. W. W. Biggs, resigned in January and was succeeded by Dr. A. G. Smith,

Mr. Alan Gilpin, B.Sc. (Econ.), N.Inst.F., M.R.S.H., of England, was appointed Director of Air Pollution Control but had not yet taken up duty on 30th June, 1965.

VITAL STATISTICS

The estimated population of Queensland at 31st December, 1964, was 1,595,057, an increase of 23,075 (or 1·5 per cent.). The estimated population living in the metropolitan area was 668,000, an increase of 13,500 (or 2·1 per cent.) during 1964.

Queensland has been fortunate in its policy of decentralisation. In this atomic age little difficulty would be experienced in crippling industry in Brisbane. It is, therefore, most important to divert industry and population to the country.

The percentage proportion of State population in capital cities of the Commonwealth is shown in the following table:—

		Percentage	
State		Proportion of State Population in Capital Cities	
New South Wales	.. ..	55·87	
Victoria	.. ..	65·84	
Queensland	.. ..	41·76	
South Australia	.. ..	58·92	
Western Australia	.. ..	57·85	
Tasmania	.. ..	33·72	
Northern Territory	.. ..	47·09	
Australian Capital Territory	.. ..	96·56	
Australia	.. ..	56·63	

The crude birth rate decreased from 23·0 to 22·1 per thousand population in the past year and the number of babies born decreased from 35,934 to 34,972. This rate is

higher than the Australian average of 20·6 and is higher than all States except Tasmania. It will be seen from Table VI this downward trend is worldwide.

The marriage rate was 7·4 per thousand mean population, an increase of 0·1. Despite this there was a decrease in the number of births by 962. This crude birth rate is related to per thousand population, not per thousand women of child-bearing age. In comparing the present rate with that of other years, some adjustment should be made for the increasing number of old people and young children in the population. Table 1 shows a comparison of the birth rate related to women of child-bearing age (18-39 years). If the crude birth rate in 1954 is taken as 100, in 1964 it was 93. If, however it is related to women of child-bearing age, that is between the ages of 18 and 39, it is 102. The rate is approaching that of 1954 after making allowance for increase of women in the 18-39 years age group from 201,638 to 220,855.

TABLE I

Year	Crude Birth Rate	Related to Number of Women between 18 and 39 taking 1954 as 100
1954	100	100
1955	102	103
1956	99	102
1957	101	106
1958	99	105
1959	103	110
1960	99	108
1961	102	112
1962	98	107
1963	97	106
1964	93	102

Much has been and is being said about the effect of the contraceptive pill which first became widely used in 1961. In order to make an appreciation of this, I sought the co-operation of Mr. S. E. Solomon, Deputy Commonwealth Statistician and Government Statistician, and his staff who supplied the Tables used.

It will be seen in Table II which records the number of births to and the birth rate for women in five year age groups between 15 and 44 that the only increase in the birth rate is in the 15-19 years group. This is understandable when it is remembered that 83·1 per cent. of first births to mothers under 20 years would have been ex-nuptial or born within the first nine months of marriage and the contraceptive pill would not be taken regularly by girls in this age group. The greatest falls are in the 20-24 and 25-29 groups.

Table III shows the nuptial births per 100 marriages of women under 35 years of age in the period corresponding to the duration of marriage as indicated by the birth registrations. The marriages are not linked precisely to the births which arise therefrom owing to the way durations are classified statistically. As an example of the procedure adopted 1964 births at between three and four years of marriage have been related to the average annual number of marriages during 1960 and 1961.

TABLE II
BIRTHS ACCORDING TO AGE-GROUP OF MOTHER AND NUMBER OF BIRTHS PER 1,000 WOMEN IN VARIOUS AGE GROUPS
QUEENSLAND, 1959-1964, INCLUSIVE

Year	Age of Mother					
	15-19	20-24	25-29	30-34	35-39	40-44
1959—						
Number of Births	2,560	10,907	10,425	6,859	3,686	1,070
Female Population	55,867	46,841	45,082	47,969	48,776	45,907
Births per 1,000 Women	45.8	232.9	231.2	143.0	75.6	23.3
1960—						
Number of Births	2,695	11,093	10,064	6,620	3,634	1,007
Female Population	57,952	47,524	44,580	48,072	49,427	46,496
Births per 1,000 Women	46.5	233.4	225.8	137.7	73.5	21.7
1961—						
Number of Births	3,043	11,606	10,240	6,910	3,669	1,087
Female Population	60,036	48,210	44,080	48,179	50,080	47,085
Births per 1,000 Women	50.7	240.7	232.3	143.4	73.3	23.1
1962—						
Number of Births	2,987	11,469	10,061	6,539	3,499	1,048
Female Population	64,329	49,681	44,316	47,242	49,381	47,732
Births per 1,000 Women	46.4	230.9	227.0	138.4	70.9	22.0
1963—						
Number of Births	3,319	11,432	10,187	6,365	3,397	1,162
Female Population	67,965	51,617	44,915	46,399	49,228	48,903
Births per 1,000 Women	48.8	221.5	226.8	137.2	69.0	23.8
1964—						
Number of Births	3,605	11,265	9,735	5,882	3,327	1,050
Female Population	70,280	54,105	46,149	45,300	49,217	49,008
Births per 1,000 Women	51.3	208.2	210.9	129.8	67.6	21.4

In order to compare the change since 1962 the percentage movement for each rate between 1962 and 1964 has been shown in the last column.

As would be expected the rate of first births under nine months of marriage has at least remained steady and has even shown some tendency to rise. There has been a substantial fall (about 20 per cent. over the last two years) in first births between nine and twelve months of marriage. This fall is an acceleration of one that appears to have been evident through the period since 1960. First births between one and two years of marriage have also fallen substantially. At all

later periods of marriage the rate of first births in 1964 has increased over that of 1962 and 1963 and since 1959 at least held its own level. For other than first births there has been a marked downward movement in the rate for all durations during the last two years.

The figures would appear to indicate that there has been a definite tendency to postpone the arrival of first births. As far as other than first births are concerned, it is too early to say whether the fall is due to the spreading of the intervals between successive members of the family or a reduction in the average size of the family. The indications at present are that the contraceptive pill is causing a fall in the birth rate.

TABLE III
NUPTIAL BIRTHS PER 100 MARRIAGES OF WOMEN UNDER 35 YEARS OF AGE—QUEENSLAND

First Births	Year of Birth						Percentage Increase or Decrease 1962-64
	1959	1960	1961	1962	1963	1964	
Under 9 months	27.5	27.9	32.0	29.1	30.1	30.8	+5.8
9-12 months	20.6	20.4	19.4	18.3	16.0	14.7	-19.7
1-2 years	28.3	27.6	27.5	27.1	26.0	24.4	-10.0
2-3 years	11.3	10.2	11.3	10.4	10.3	11.6	+11.5
3-4 years	6.2	5.8	6.1	5.6	6.0	5.9	+5.4
4-5 years	3.8	3.9	3.8	3.3	3.6	3.6	+9.1
5 years and over	8.8	8.5	9.3	8.9	8.5	8.8	-1.1

Other than First Births	1959	1960	1961	1962	1963	1964	Percentage Increase or Decrease 1962-64
Under 1 year	0.5	0.4	0.5	0.4	0.4	0.4	—
1-2 years	10.1	11.2	11.5	12.1	11.3	11.0	-9.1
2-3 years	28.2	28.2	29.9	29.0	28.9	26.0	-10.3
3-4 years	31.0	29.6	28.4	29.9	30.1	29.0	-3.0
4-5 years	27.8	28.2	27.7	26.8	26.4	24.6	-8.2
5 years and over	18.6	16.0	16.6	15.9	15.6	14.3	-10.1

In the calendar year 1964 there were 2,898 illegitimate births which were 8.29 per cent. of all births. 990 or 34.16 per cent. of all ex-nuptial births were to mothers under 20 years of age as compared with 31.23 per cent. in 1963.

3,251 babies were born to couples married less than nine months. This is 32.48 per cent. of all first nuptial births or 9.3 per cent. of all births.

Of 2,114 first nuptial confinements of mothers under 20 years, 1,588 or 75.12 per cent. children were born within the first nine months of married life.

Of the 3,104 first births to mothers under 20 years of age, approximately 83.1 per cent. would have been ex-nuptial or born within the first nine months of marriage.

Table IV shows the total number of ex-nuptial births and rate per thousand occurring to unmarried mothers in the age groups under 16, 16-17, and 18-19, for the years 1960 to 1964.

TABLE IV
SHOWING THE NUMBER OF EX-NUPTIAL BIRTHS AND RATE PER THOUSAND UNMARRIED FEMALES—1960-64

Year	Under 16 Years		16 and 17 Years		18 and 19 Years	
	Number	Rate	Number	Rate	Number	Rate
1960	44	1.66	180	7.53	319	18.23
1961	54	1.92	246	9.92	386	21.09
1962	62	2.09	225	8.82	400	20.51
1963	57	1.98	304	11.05	470	21.36
1964	84	2.89	362	12.48	544	24.07

It would appear—

- (1) The ex-nuptial rate in the under 20 years age group is increasing.
- (2) Of this group, the birth rate per thousand unmarried females in the under 16 years age group shows the biggest proportional increase.
- (3) There is a progressive increase in the number of first births conceived out of wedlock to mothers under 20 years of age.
- (4) The incidence of venereal disease in the under 20 years age group is 35.5 per cent. of all notifications. (Table xxiv.)

We have a moral problem which we are unable to solve. Research into its cause should be rewarding.

The infant mortality rate decreased from 20.1 (722 infants) to 19.2 (673 infants) per thousand live births, a decrease of 49.

The maternal mortality rate for 1964 was the lowest in Australia with the exception of Tasmania. The rate increased from 0.25 (9 deaths) per thousand live births in 1963 to 0.29 (10 deaths). This rate was 0.96 in 1954. While the discovery of new antibiotics has played some part in this reduction—antibiotics were available ten years ago—the main reason is better medical care. The indications are that this rate will be greatly reduced for 1965.

As previously, deaths from diseases associated with old age head the list of causes of death. Heart disease was responsible for 4,656 deaths while cancer accounted for 2,149. Of this number 313 died from cancer of the lung (283 males and 30 females). This is an increase of 24 males and 5 females as compared with 1965 (259 males and 25 females). There were 50 deaths from cancer of the cervix and 181 from cancer of the breast. The publicity given by the Queensland Cancer Council and the Queensland Health Education Council has resulted in an increased interest by women who are now attending their own doctors or hospitals for routine examinations. The number of examinations being made has necessitated an increase in staff of the Cytological Unit at the Women's Hospital. Smears from centres throughout the State, other than Townsville and Toowoomba which send doubtful smears only, are forwarded to this centre.

The number of deaths from motor vehicle traffic accidents (461) is an increase of 53 over the previous year.

The research being carried out by the team consisting of an engineer from the Main Roads Department, a medical officer, and a social worker under the direction of Dr. K. Jamieson, Senior Neurosurgeon, Brisbane Hospital, has continued. The team visits traffic accidents and investigates the injury patterns received by the drivers and the passengers, the engineering aspects of the accident, and the social history of the people associated with the accident. The information obtained is now being collated and studied. The report will be published in due course by the National Health and Medical Research Council. Much of the information obtained is given in confidence and in order to protect a member of the team being directed to answer questions in court in regard to this, the Health Act was amended to provide that a member of the team shall not be compellable without his consent to answer any questions concerning information received.

COMMUNICABLE DISEASES

The total number of notifications received (3,013) decreased by 1,430 as compared with the previous year (4,443). This was due mainly to the decreased notifications of infectious hepatitis and rubella. 312 patients were notified as suffering from infectious hepatitis in the metropolitan area as compared with 476 last year, and 483 notifications were received from the country as compared with 1,059. No reason for this large fall can be given.

Only 58 notifications of rubella were received as compared with 863 in the epidemic year 1963-64. The reason for the fall was the high level of immunity in the community as a result of the epidemic.

Two patients were notified as suffering from diphtheria while there were again no cases of confirmed poliomyelitis notified in the State. The low incidence of these two diseases is an indication of the value of immunization. All States, except Tasmania, use Salk vaccine and it is not intended to change to Sabin vaccine until such time as this is recommended by the National Health and Medical Research Council.

I would again urge parents not to be lulled into a sence of false security because of the absence of positive cases of these two disease. Local Authorities make immunization available to the community without cost and it is incumbent upon all members of the community to protect themselves. Adults are reminded if they do develop poliomyelitis, it is likely to be severe with widespread paralysis.

SECTION OF HANSEN'S DISEASE

The value of modern therapy in the treatment of patients suffering from Hansen's disease may be seen in Table XVIII. In 1948, the year when sulphone treatment commenced there were 74 coloured patients in hospital; today there are 15. In 1948 there were 55 white patients in hospital; today there are 6.

Over the years the attitude of patients has changed. Previously a patient, on becoming aware he was suffering from Hansen's disease, would go into hiding; today he not only reports immediately he is aware of his condition but on discharge continues to take drug treatment.

Equally pleasing is the awareness in the community that Hansen's disease is not the disease as taught from the Bible. It is now realised it is just another communicable disease which eventually will die out.

SECTION OF ENTHETIC DISEASES

The number of notifications for venereal disease received was 1,540 composed of 1,173 males and 367 females. Most were for gonorrhoea.

The high incidence of venereal disease in the 16-20 years age group continues, the ratio of notifications to the total received being practically the same as in the previous year. Of the 1,540 new cases notified, 546 or 35.5 per cent. were in this group.

The cause for greatest concern is the increased incidence of syphilis.

DIVISION OF TUBERCULOSIS

There was an increase in the number of notifications received from 857 to 891. Of this number, 33 were infected by atypical mycobacteria. This group of organisms is of particular interest to Queensland causing a high positive tuberculin rate in children up to 16 years of age. An application has been made to the Commonwealth Health Department for a grant of £20,000 per annum for five years to carry out research into the epidemiology of tuberculosis caused by these organisms. The atypical mycobacteria are to be the main subject for discussion at the Eighteenth International Tuberculosis Conference to be held at Munich in October. Dr. E. W. Abrahams, Director of Tuberculosis, will attend.

New equipment obtained this year will enable the mass X-ray units to be brought to communities which were inaccessible to the units carrying out the ordinary survey.

The number of films taken under the compulsory mass chest X-ray survey was 312,031, an increase of 61,173 over the previous year. The campaign in Brisbane should be completed by the end of the year, while the country units have commenced their second run. Mass X-ray is the best method of finding the early case of tuberculosis and, therefore, plays an important part in the eradiction of the disease. The rate of positive cases found during the re-survey is lower than in the original survey.

The number of deaths was 75 as compared with 80 in 1963. This is equivalent to a rate of 4.7 per 100,000 population and apart from the year 1961 when it was equalled is the lowest on record.

DIVISION OF MATERNAL AND CHILD WELFARE

The infant mortality rate of 19.2 is the lowest ever recorded in Queensland. The rate for the metropolitan area was 17.0 as compared with 17.4 last year, for other sub-tropical areas 18.6 (20.0) and for the tropical area 23.6 (24.1).

Immaturity and congenital malformations caused most deaths. The rates for immaturity in the three divisions were 2.5, 4.0, and 5.1 respectively, for congenital malformations 5.1, 2.9, and 3.9.

In an endeavour to ascertain the reasons why the metropolitan infant mortality rate was lower than that for the other two areas, a joint meeting of the Maternal Mortality Committee and paediatricians decided to carry out a survey to cover a period of six months to obtain information in regard to all births. Most confinements take place in hospital and the co-operation of doctors and matrons of the hospitals in the State was sought. The survey commenced in February and at the end of the six months period the information obtained will be collated and discussed by the Committee.

If the survey reveals anything of significance, for example, an increased prematurity rate in one particular area, a more detailed investigation of the reasons will be undertaken. The Council of the Australian Medical Association (Queensland Branch) has, as usual, given its support to the project and all members were asked by Council through the News Bulletin to co-operate.

In an examination of the factors which were responsible for the nine maternal deaths in 1963 avoidable factors were established in three cases. This does not mean that the death could or should have been averted. These avoidable factors were determined long after the event; it is easy to be wise then. But it does mean that if the particular avoidable factor in the death could have been averted the outcome might have been different.

The Maternal Mortality Committee released a further bulletin "Puerperal Intra-partum and Abortional Infection as a Cause of Maternal Death" during the year. This was distributed with the Australian Medical Association's News Bulletin and copies of this and previous bulletins are available from the Maternal and Child Welfare Department.

DIVISION OF LABORATORY SERVICES
Laboratory of Microbiology and Pathology

The work of this laboratory continues to expand. There was an increase in the number of recent infections with "Q" fever diagnosed. The greatest increase was in specimens received from Maryborough, 62 being positive as against 6 last year. The increase was due to an outbreak in the local abattoir.

The laboratory is a WHO/FAO Leptospirosis Laboratory and specimens are received for diagnoses not only from other States of the Commonwealth but from overseas countries.

The discovery of "Q" fever as a disease entity was made in the laboratory by Dr. E. H. Derrick when he was its director. It was he who led the research into leptospirosis when he transferred to the Queensland Institute of Medical Research.

Officers of the laboratory carry out coronial examinations for Brisbane and are called upon to visit country centres to carry out autopsies to determine the cause of death.

VITAL STATISTICS

Population

The estimated population of Queensland at 31st December, 1964, was 1,595,057, an increase of 23,057 (or 1.5 per cent.) for the year. The estimated population living in the metropolitan area was 668,000, an increase of 13,500 (or 2.1 per cent.) during 1964.

The population density per square mile is 2.39 persons for the whole of Queensland, 1.409 persons in the metropolitan area, and 1.39 persons for the rest of the State; 41.9 per cent of the population of the State reside in the metropolitan area.

TABLE V
SHOWING POPULATION OF AUSTRALIAN STATES AND THE PERCENTAGE OF ESTIMATED AUSTRALIAN POPULATION RESIDENT IN EACH STATE DURING CERTAIN YEARS (AT 31ST DECEMBER), SINCE 1935

Year	New South Wales		Victoria		Queensland		South Australia		Western Australia		Tasmania		Australian Capital Territory	Australia
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Number
1935 ..	2,658,672	39.3	1,841,595	27.3	971,297	14.4	586,762	8.4	449,623	6.6	233,623	3.5	14,890	6,755,662
1940 ..	2,790,948	39.4	1,914,918	27.1	1,031,452	14.6	599,056	8.4	474,076	6.7	244,002	3.5	23,134	7,077,586
1945 ..	2,932,998	39.5	2,015,107	27.1	1,084,864	14.6	630,882	8.5	490,088	6.6	250,280	3.4	25,978	7,430,197
1950 ..	3,241,057	39.0	2,237,182	28.1	1,205,418	14.5	722,843	8.7	572,649	6.9	290,333	3.5	37,999	8,307,481
1955 ..	3,526,534	37.9	2,546,332	27.3	1,358,858	14.6	834,661	9.0	668,609	7.2	324,919	3.5	33,960	9,311,825
1960 ..	3,877,261	37.3	2,888,290	27.8	1,502,286	14.5	957,022	9.2	731,033	7.0	355,969	3.4	55,272	10,391,920
1961 ..	3,949,420	37.2	2,950,790	27.8	1,525,278	14.4	980,755	9.2	746,205	7.0	364,134	3.4	62,091	10,603,931
1962 ..	4,016,635	37.2	3,013,447	27.9	1,550,370	14.3	999,693	9.2	765,715	7.1	369,403	3.4	68,824	10,810,371
1963 ..	4,086,293	37.1	3,080,215	27.9	1,571,982	14.3	1,020,174	9.3	784,107	7.1	373,640	3.4	77,578	11,022,811
1964 ..	4,158,926	37.0	3,161,537	28.1	1,595,057	14.2	1,044,662	9.3	799,626	7.1	375,268	3.3	84,686	11,250,708

Births

During 1964, births registered in Queensland totalled 34,972, a decrease of 962 on the previous year. The crude birth rate was 22.1 compared with 23.0 in 1963. The births comprised 17,990 males and 16, 982 females, giving a masculinity rate of 105.9.

The natural increase (excess of births over deaths) was 20,449, being equal to an increase of 1.3 per cent. of the population.

The birth rate in Queensland remains relatively high, as compared with other States.

TABLE VI
CRUDE BIRTH RATE (PER 1,000 POPULATION)

—	1959	1960	1961	1962	1963	1964
Commonwealth of Australia	22.6	22.4	22.9	22.1	21.6	20.6
Queensland	24.3	23.6	24.2	23.2	23.0	22.1
New South Wales	21.5	21.4	22.1	21.5	20.8	19.5
Victoria	22.4	22.4	22.6	22.0	21.5	20.8
South Australia	22.1	22.2	23.1	21.6	21.2	20.2
Western Australia	24.0	23.4	23.2	22.6	22.4	21.1
Tasmania	25.3	25.5	25.4	24.8	23.4	22.5
New Zealand	25.1	25.0	25.5	24.7	25.5	24.1
United Kingdom	16.9	17.5	17.8	18.3	18.4	18.7
United States of America ..	24.1	23.6	23.4	22.4	21.5	21.2
Canada	27.5	26.8	26.0	25.5	24.8	23.8

Deaths

For the year 1964 deaths from all causes totalled 14,523, giving a crude death rate (deaths per 1,000 mean population) of 9.2 compared with 8.5 in the previous year, and higher than the crude death rate of the Commonwealth of Australia. Table VII compares the crude death rates of Queensland, other States, and certain overseas countries since 1959.

Diseases of the heart, hypertension and vascular lesions affecting the nervous system were again the greatest cause of death in the population.

There were 2,149 deaths from cancer as compared with 1,984 in 1963. This is about 15 per cent. of all deaths.

In every 100 male deaths, 45 died of a degenerative vascular disease, 15 of cancer and 8 of accident. In every 100 female deaths, the respective figures are 47, 15 and 4. The fatal accident rate was much higher in males than in females.

TABLE VII
CRUDE DEATH RATE (PER 1,000 POPULATION)

—	1959	1960	1961	1962	1963	1964
Commonwealth of Australia	8.9	8.6	8.5	8.7	8.7	9.0
Queensland	8.4	8.3	8.4	8.6	8.5	9.2
New South Wales	9.4	9.1	9.0	9.3	9.2	9.6
Victoria	9.0	8.6	8.4	8.6	8.8	8.8
South Australia	8.6	8.3	8.1	8.3	8.1	8.6
Western Australia	7.7	7.9	7.8	7.7	7.7	8.1
Tasmania	8.1	7.7	7.9	8.0	7.7	8.6
New Zealand	9.1	8.8	9.0	8.9	8.8	8.8
United Kingdom	11.7	11.5	12.0	11.9	12.1	11.3
United States of America ..	9.4	9.5	9.3	9.5	9.6	9.4
Canada	8.0	7.8	7.7	7.6	7.8	7.6

Marriages

Registration of marriages during the year totalled 11,752 compared with 11,431 in 1963. The marriage rate was 7.4 per 1,000 mean population, compared with 7.3 in the previous year. Marriages of minors during the year totalled 6,759 of whom 1,636 were males and 5,123 females.

Infant Mortality

The infant mortality rate of Queensland and other States and certain overseas countries is shown in Table IX, while Table VIII is a composite one showing the birth rates, infant mortality and reproduction rates of Queensland compared with the Commonwealth of Australia.

The net reproduction rate is higher than the Australian average, whilst the maternal mortality rate declined from 5·77 in 1911 to 0·29 in 1964.

If the crude death rate had remained at the level prevailing in 1900, over 4,000 additional deaths would have occurred in Queensland during 1964. In addition, the expectation of life has been increased by 17 years during that period.

TABLE VIII
BIRTH, INFANT MORTALITY, MATERNAL MORTALITY, AND REPRODUCTION RATES, QUEENSLAND AND AUSTRALIA

	Crude Birth Rate		Infant Mortality Rate		Maternal Mortality Rate (1)		Gross Reproduction Rate (2)		Net Reproduction Rate (3)	
	Queensland	Australia	Queensland	Australia	Queensland	Australia	Queensland	Australia	Queensland	Australia
1946	24·8	23·7	29·3	29·0	2·26	1·85	1·55	1·46	1·42	1·33
1947	25·6	24·1	30·8	28·5	1·62	1·87	1·64	1·49	1·54	1·36
1948	24·7	23·1	28·0	27·8	1·47	1·40	1·59	1·45	1·51	1·33
1949	24·0	22·9	24·7	25·3	1·44	1·21	1·56	1·46	1·48	1·33
1950	24·4	23·3	24·8	24·5	1·45	1·09	1·60	1·49	1·52	1·42
1951	24·2	23·0	25·7	25·2	1·18	1·05	1·62	1·49	1·54	1·21
1952	24·6	23·3	24·9	23·8	1·03	0·94	1·67	1·55	1·59	1·47
1953	23·9	22·9	25·0	23·3	0·71	0·62	1·65	1·56	1·57	1·48
1954	23·7	22·5	22·3	22·5	0·96	0·69	1·67	1·56	1·62	1·50
1955	24·1	22·6	20·3	22·0	0·62	0·64	1·71	1·59	1·65	1·53
1956	23·5	22·5	22·7	21·7	0·89	0·56	1·72	1·61	1·66	1·55
1957	24·0	22·9	21·6	21·4	0·62	0·63	1·78	1·66	1·72	1·60
1958	23·6	22·6	19·4	20·5	0·47	0·50	1·79	1·67	1·72	1·60
1959	24·3	22·6	20·3	21·5	0·59	0·46	1·87	1·68	1·80	1·61
1960	23·6	22·4	21·0	20·2	0·68	0·53	1·84	1·68	1·77	1·61
1961	24·2	22·9	20·0	19·5	0·76	0·44	1·86	1·73	1·79	1·66
1962	23·2	22·1	21·1	20·4	0·64	0·36	1·79	1·66	1·72	1·60
1963	23·0	21·6	20·1	19·5	0·25	0·27	1·79	1·62	1·72	1·56
1964	22·1	20·6	19·2	19·1	0·29	0·33	1·68	1·53	1·61	1·47

(1) *Maternal Mortality Rate*.—Deaths from puerperal causes per 1,000 live births.

(2) *Gross Reproduction Rate*.—Represents the number of female children born on the average to women living right through the child-bearing years if the conditions on which the rate is based continue.

(3) *Net Reproduction Rate*.—Is the gross reproduction rate corrected for deaths of females from birth to the end of the child-bearing period. It is a more accurate index than the gross reproduction rate. Unless it exceeds unity the population is not replacing itself.

TABLE IX
INFANT MORTALITY RATES (DEATHS UNDER ONE YEAR PER 1,000 LIVE BIRTHS)

	1957	1958	1959	1960	1961	1962	1963	1964
Commonwealth of Australia	21·4	20·5	21·5	20·2	19·5	20·4	19·5	19·1
Queensland	21·7	19·4	20·3	21·0	20·0	21·1	20·1	19·2
New South Wales	22·7	21·3	22·7	21·2	20·8	21·4	19·9	20·3
Victoria	20·2	19·2	21·2	18·5	17·8	18·5	18·9	16·9
South Australia	20·6	22·4	20·7	18·9	20·0	19·2	18·7	19·0
Western Australia	21·1	21·5	20·2	21·6	19·7	22·3	20·4	19·7
Tasmania	20·2	19·5	23·4	19·1	16·8	20·7	17·9	20·1
New Zealand	20·0	19·4	19·9	19·7	19·1	16·6	19·6	19·1
United Kingdom	24·0	23·4	23·1	22·4	22·1	22·4	21·7	*
United States of America	26·3	27·1	26·4	25·7	25·3	25·3	25·2 ¹	*
Canada	30·9	30·2	28·4	27·3	27·2	*	*	*

* Not available.

¹. Preliminary rate.

The causes of death to residents of Queensland during 1964 are shown in Table X.

TABLE X
SHOWING CAUSES OF DEATH OF RESIDENTS OF QUEENSLAND, 1961-1964

Causes of Death	Males	Females	Total 1964	Persons		
				1963	1962	1961
Tuberculosis of Respiratory System	58	14	72	77	83	66
Tuberculosis, other	2	1	3	3	1	6
Diphtheria .. .. .	..	..	..	..	..	1
Whooping Cough .. .. .	..	1	1	..	..	1
Tetanus	9	2	11	5	6	10
Acute Poliomyelitis .. .. .	..	..	..	..	5	2
Measles	3	2	5	3	3	3
Infectious Hepatitis	1	12	13	15	11	11
Other Infectious and Parasitic Diseases	27	21	48	59	50	40
Malignant Neoplasms	1,235	914	2,149	1,984	1,937	1,838
Neoplasms, Benign and Unspecified	11	18	29	27	34	42
Hay Fever and Asthma	45	44	89	57	46	60
Diabetes Mellitus	74	95	169	150	134	143
Other Allergic, Endocrine System, Metabolic, and Nutritional Diseases	23	22	45	29	28	32
Pernicious and other Hyperchromic Anæmias	2	6	8	11	12	14
Other Diseases of the Blood and Blood-forming Organs	16	24	40	35	35	43
Mental, Psychoneurotic and Personality Disorders	59	26	85	64	60	57
Vascular Lesions affecting the Central Nervous System	907	1,091	1,998	1,859	1,746	1,738
Other Diseases of the Nervous System and Sense Organs	90	66	156	142	178	143
Diseases of the Heart	2,897	1,759	4,656	4,346	4,159	3,950
Hypertensive Disease	180	152	332	289	336	400
Other Diseases of the Circulatory System	266	254	520	473	465	484
Influenza	41	38	79	12	18	22
Lobar-pneumonia	65	45	110	95	87	86
Broncho-pneumonia	177	151	328	209	213	202
Other and Unspecified Pneumonia	69	55	124	134	115	105
Bronchitis	272	53	325	294	259	206
Other Diseases of Respiratory System	119	42	161	107	126	138
Diseases of Stomach and Duodenum	71	25	96	103	97	112
Appendicitis	6	8	14	19	19	27
Diseases of Liver, Gallbladder, and Pancreas	80	67	147	131	140	117
Other Diseases of Digestive System	91	81	172	152	194	183
Nephritis and Nephrosis	117	84	201	184	181	215
Diseases of Male Genital Organs	69	..	69	65	58	68
Other Diseases of Genito-Urinary System	92	164	256	207	208	177
Deliveries and Complications of Pregnancy, Childbirth, and Puerperium .. .. .	..	10	10	9	23	28
Diseases of the Skin and Cellular Tissue	9	4	13	21	21	22
Diseases of the Bones and Organs of Movement	16	22	38	52	44	46
Congenital Malformations	100	80	180	176	167	187
Intra-cranial and Spinal Injury at Birth	28	16	44	44	43	61
Other Birth Injury	24	16	40	45	46	39
Post-Natal Asphyxia and Atelectasis	39	18	57	62	101	78
Infections of Newborn	11	7	18	29	28	20
Immaturity Unqualified	82	47	129	144	131	141
Other Diseases Peculiar to Early Infancy	48	43	91	114	103	111
Senility without mention of Psychosis	14	30	44	86	214	192
Symptoms Referable to Systems or Organs	6	5	11	7	5	11
Ill-defined and Unknown Causes	15	14	29	32	21	29
Motor Vehicle Traffic Accidents	354	107	461	408	408	349
Accidental Falls	85	93	178	113	158	134
Accidental Drowning and Submersion	59	15	74	69	59	58
Other Accidents	179	52	231	213	276	246
Suicidal and Self-Inflicted Injury	215	107	322	289	261	232
Homicide and Injury Purposely Inflicted by Other Persons	22	20	42	22	29	20
Total from all Causes	8,480	6,043	14,523	13,275	13,182	12,756

Degenerative diseases of the blood vessels accounted for most fatalities from heart disease and for nearly all deaths from vascular diseases of the central nervous system. Together they accounted for more than 47 per cent. of all deaths. Most of these occur in old people and hence are at present largely unavoidable. However, an increasing number of deaths due to ischaemic heart disease are occurring in middle aged males.

Some of these are preventable, because many middle aged men are overweight and are heavy smokers, both of which are known to increase the probability of death. Cancer accounted for 15.1 per cent. of deaths, compared with 14.7 in 1962 and 1963, but the increase is not significant. Deaths due to traffic accidents, however, have increased from 349 in 1961 to 461 in 1964. This is a significant increase—being far in excess of the population increase.

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SECTION OF EPIDEMIOLOGY

Tables XI and XII show the reported incidence of notifiable diseases during the fiscal year, while Table XIII shows the incidence of the same diseases for the calendar year 1964. During 1964-65, notifications totalled 3,013 (1,160 in Brisbane and 1,853 in country districts), compared with 4,443 (1,922 and 2,521) the previous year. The decrease of 1,430 was due mainly to decreased notifications for infantile diarrhoea, infectious hepatitis and rubella. Notifications of infantile diarrhoea dropped from 321 in 1963-64 to 190 cases. Infectious hepatitis fell from 1,535 notifications to 795, while rubella, which had appeared in epidemic form in 1963-64 when 863 cases were reported, was responsible for only 58 notifications. Decreases also occurred in the number of notifications received for amoebic dysentery (-63) and malaria (-15). These decreases were offset slightly by increased notifications received for tuberculosis (+34), Q. fever (+128), ancylostomiasis (+49), meningitis (+28) and rheumatic fever (+42).

One of the main reasons for demanding notification of a disease should be that positive public health action will follow such notification. Bearing this in mind, the National Health and Medical Research Council recently reviewed the list of diseases notified throughout Australia and suggested the deletion of certain diseases. These recommendations are being studied and will be followed with respect to the conditions pertaining in this State.

The prevalence of communicable diseases existing in Queensland has been conveyed to medical practitioners each month through the News Bulletin of the Queensland Branch of the Australian Medical Association.

Variations in the number of notifications received do not always reflect true alterations in the incidence of a disease. An increase may be due to a special attempt at case finding as in a mass X-ray campaign for tuberculosis; a decrease may be due to lack of enthusiasm on the part of medical practitioners to notify a disease. Bearing these points in mind, the decrease in notifications received is believed to be a true indication of a lessened incidence in the three diseases, rubella, infantile diarrhoea and infectious hepatitis.

TABLE XI
NOTIFIABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1964, TO 30TH JUNE, 1965
METROPOLITAN AREA (POPULATION AT 31ST DECEMBER, 1964—668,000)

Diseases	Months												Totals 1964-65	Totals 1963-64
	1964						1965							
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June		
Ancylostomiasis .. .. .	..	15	9	2	10	4	..	3	..	..	7	..	50	22
Anthrax .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Breast Abscess	1	2	1	..	..	1	..	4	2	..	..	2	13	7
Brucellosis .. .. .	..	..	..	..	1	..	..	..	..	..	2	..	3	1
Cholera .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile) .. .. .	..	27	14	7	7	6	12	8	3	7	2	15	108	140
Diphtheria .. .. .	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Dysentery (Amoebic) .. .. .	..	3	..	..	..	..	..	..	..	..	..	..	3	43
Dysentery (Bacillary)	3	1	..	..	..	..	1	4	1	1	..	1	12	26
Encephalitis .. .. .	..	1	..	1	..	1	..	..	..	1	..	1	5	2
Filariasis .. .. .	..	..	1	1	..	..	..	..	..	..	..	..	2	..
Hepatitis (Infective)	22	21	32	40	42	25	24	27	26	23	16	14	312	476
Hydatid Disease .. .. .	..	..	..	..	1	..	..	..	..	..	..	..	1	..
Lead Poisoning .. .. .	..	..	..	..	..	..	..	..	..	..	1	1	2	2
Leprosy .. .. .	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Leptospirosis	2	1	3	..	1	..	1	1	..	1	2	1	13	5
Malaria	2	2	1	2	2	1	..	1	2	..	1	..	14	18
Melioidosis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	2	2	3	6	6	3	4	8	5	8	5	2	54	53
Neo-Natal Infections .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Ornithosis (Psittacosis) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Plague .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis (Paralytic and Non-Paralytic) .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Puerperal Infections .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	3
Q. Fever	2	1	..	2	5	7	4	2	4	3	3	33	66	35
Relapsing Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever	4	3	6	9	2	6	5	5	7	..	..	6	53	36
Rubella	1	3	3	8	5	4	3	1	2	..	1	1	32	557
Scarlet Fever	6	1	6	4	2	1	1	3	1	1	9	10	45	42
Smallpox .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis	1	..	..	1	..	..	..	..	..	..	..	..	2	1
Tetanus .. .. .	..	..	..	1	..	..	..	..	1	1	..	2	5	6
Tuberculosis	20	52	39	12	36	32	31	38	27	24	14	35	360	441
Typhoid Fever (including Paratyphoid) .. .. .	..	1	..	..	..	..	..	..	..	1	1	..	3	3
Typhus Fever—	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Epidemic .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murine .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	1
Scrub .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Tick .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	66	136	119	97	120	91	86	105	81	71	64	124	1,160	1,922

TABLE XII

NOTIFIABLE DISEASES (EXCLUSIVE OF VENEREAL DISEASES) 1ST JULY, 1964, TO 30TH JUNE, 1965
EXTRA METROPOLITAN AREA (POPULATION AT 31ST DECEMBER, 1964—927,057)

Diseases	Months												Totals 1964-65	Totals 1963-64
	1964						1965							
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	April	May	June		
Ancylostomiasis	1	..	4	1	..	..	33	..	5	1	1	1	47	26
Anthrax .. .. .	..	..	..	..	..	..	1	2	1	..	..	1	8	10
Breast Abscess	1	..	..	2	..	..	1	2	2	2	..	1	11	10
Brucellosis .. .. .	..	..	..	3	..	..	1	2	2	2	..	1	11	10
Cholera .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dengue .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diarrhoea (Infantile)	1	18	9	11	4	8	5	1	4	3	5	13	82	181
Diphtheria	1	..	..	..	1	..	..	1	2	1	4	1	13	4
Dysentery (Amoebic)	1	..	1	1	1	..	..	1	2	1	4	1	13	36
Dysentery (Bacillary)	2	..	12	3	2	1	1	..	..	2	..	1	24	13
Encephalitis	3	..	1	..	1	..	..	..	..	..	..	..	5	8
Filariasis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Hepatitis (Infective)	39	35	46	61	56	60	40	37	38	20	29	22	483	1,059
Hydatid Disease .. .. .	..	..	..	1	1	..	..	..	..	..	1	..	3	3
Lead Poisoning .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Leprosy	2	..	1	..	1	..	..	..	..	1	..	..	5	7
Leptospirosis	10	5	10	12	4	4	1	6	9	8	6	11	86	76
Malaria	1	..	3	..	1	7	..	..	1	3	6	3	25	36
Melioidosis .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Meningitis	10	7	4	6	4	6	6	4	5	3	4	9	68	31
Neo-Natal Infections .. .. .	..	..	1	..	..	..	..	1	..	1	..	..	3	4
Ornithosis (Psittacosis) .. .. .	..	..	1	..	..	..	..	..	1	..	..	..	2	4
Plague .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Poliomyelitis (Paralytic and Non-Paralytic)	1	1	1	2	1	1	1	..	..	..	..	..	8	..
Puerperal Infections .. .. .	..	2	3	2	4	7	3	2	3	2	2	2	32	27
Q. Fever	8	8	2	10	22	22	4	39	21	30	25	55	246	149
Relapsing Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rheumatic Fever	3	7	8	5	6	4	6	10	5	6	4	6	70	45
Rubella	3	4	8	6	1	..	1	..	..	..	3	..	26	306
Scarlet Fever	1	..	3	1	2	7	8	5	3	11	2	4	47	37
Smallpox .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Taeniasis	1	..	..	..	..	..	..	..	..	..	..	..	1	7
Tetanus	2	2	3	2	3	2	2	..	..	3	1	..	20	13
Tuberculosis	35	21	67	95	47	64	48	23	29	30	37	35	531	416
Typhoid Fever (including Paratyphoid) .. .. .	..	..	..	1	..	..	..	..	..	..	..	..	1	..
Typhus Fever—														
Epidemic .. .. .	..	..	..	..	..	..	1	..	..	..	..	..	1	3
Murine .. .. .	..	..	..	..	1	..	..	..	..	..	..	..	..	..
Scrub .. .. .	..	..	..	1	1	..	1	..	..	..	1	..	4	10
Tick .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Yellow Fever .. .. .	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals	126	110	188	226	162	193	163	133	129	127	131	165	1,853	2,521

TABLE XIII

NOTIFIED INCIDENCE OF COMMUNICABLE DISEASES IN QUEENSLAND (EXCLUSIVE OF VENEREAL DISEASE) SECTION 29 OF
“THE HEALTH ACTS, 1937 TO 1964” DURING THE CALENDAR YEAR OF 1964

Diseases	Metropolitan Area	Outside Areas	Total for Queensland 1964	Total for Queensland 1963
Ancylostomiasis	62	29	91	21
Anthrax .. .. .	..	..	..	..
Breast Abscess	9	7	16	27
Brucellosis	2	10	12	7
Cholera .. .. .	..	..	..	..
Dengue .. .. .	..	..	..	..
Diarrhoea (Infantile)	147	189	336	211
Diphtheria	1	2	3	4
Dysentery (Amoebic)	46	26	72	29
Dysentery (Bacillary)	23	28	51	39
Encephalitis	4	8	12	12
Filariasis	2	..	2	..
Hepatitis (Infective and Serum)	400	760	1,160	1,422
Hydatid Disease	1	..	1	..
Lead Poisoning	2	4	6	3
Leprosy	1	5	6	11
Leptospirosis	8	94	102	95
Malaria	18	29	47	54
Melioidosis .. .. .	..	..	..	..
Meningitis	58	54	112	97
Neo-Natal Infections .. .. .	..	4	4	6
Ornithosis (Psittacosis) .. .. .	..	3	3	8
Plague .. .. .	..	..	..	..
Poliomyelitis (Paralytic and Non-Paralytic) .. .. .	..	7	7	4
Puerperal Infections	1	33	34	31
Q. Fever	35	153	188	271
Relapsing Fever .. .. .	..	..	..	..
Rheumatic Fever	44	56	100	89
Rubella	63	47	110	810
Scarlet Fever	36	37	73	55
Smallpox .. .. .	..	..	..	..
Taeniasis	2	3	5	7
Tetanus	4	19	23	26
Tuberculosis	402	501	903	899
Typhoid Fever (including paratyphoid)	3	1	4	9
Typhus Fever { Epidemic .. .. .	..	..	..	..
Murine .. .. .	..	1	1	3
Scrub .. .. .	..	9	9	4
Tick .. .. .	..	2	2	..
Yellow Fever .. .. .	..	..	..	..
Totals	1,374	2,121	3,495	4,264

Infantile Diarrhoea

From Tables XI and XII it will be seen that the incidence of infantile diarrhoea was highest in August and September, 1964, and in June, 1965. The incidence in the summer months was not marked. This is quite a contrast to the pattern around the turn of the present century when summer saw the occurrence of severe epidemics of gastroenteritis in young children. The Queensland Institute of Medical Research investigated faecal samples from several of the cases occurring in June, 1965, but failed to discover the organism. Investigators of a disease with similar clinical signs occurring in Victoria during the same period also failed to find the causative organism. One can only surmise that the organism was not that which caused epidemics in former years. It may have been a virus.

Amoebic Dysentery

Amoebic dysentery is not a disease which occurs with any great prevalence in the normal population in Queensland. However, recently while routine investigations were being conducted for ancylostomiasis (hookworm) among patients in a ward at Brisbane Special Hospital and for intestinal parasites in the Palm Island aboriginal population there was evidence that there were carriers of amoebic dysentery in both areas. Special investigations were made in both cases. It was found that while there were many persons who harboured the organism, only a few had any clinical symptoms of the disease. At both the Special Hospital and Palm Island mass treatment was carried out with satisfactory results.

Brisbane Special Hospital

In a ward which accommodated 81 retarded girls, it was found that 53 were either carriers, or in a few cases, actually suffering from the disease. In no case was there any evidence of systemic complications. By staff education, improvement in bathing and laundry methods and mass treatment, the number of carriers was reduced to six patients. These were treated individually and at the end of the year only two patients were found to be positive cases. Complete eradication of the disease in institutions of this type is extremely difficult. The general health of the patients is good and investigations revealed no transfer to staff.

Palm Island

In March, 1964, an extensive survey was made for the express purpose of assessing the degree of infestation of the Palm Island population with intestinal parasites. In this survey, 322 specimens from 297 persons were examined. The survey was not a random one since the majority of those examined were children and many were selected because they were passing loose or fluid faeces. However, the results which are set out below indicated the need for some further action.

The important parasites were present to the extent of—

Entamoeba histolytica, 23 per cent. (trophozoites and cysts)

Giardia lamblia, 40 per cent. (trophozoites and cysts)

Ascaris lumbricoides, 10 per cent. (ova)

The first step taken was to make available the services of an experienced health inspector to report on the hygiene of the settlement and to recommend and supervise the implementation of measures to improve the overall sanitation and hygiene.

In November, 1964, the occurrence of several cases of frank ascariasis made it expedient to mass treat the population with piperazine in order to control the ascariis infestation.

By the beginning of 1965 it was considered that conditions at Palm Island were such that consideration could be given to taking some active measures to control the parasitic infestations.

As a first move an extensive re-survey of the population was undertaken. The survey was made in such a way that all age groups were included and every house and dormitory unit was represented. A total of 532 persons were examined, 178 of the specimens being examined at the settlement for trophozoite forms as well as cysts and ova. The results of this survey are as follows:—

(a) *Trophozoites* (178 persons)

Entamoeba histolytica .. 67 (37.6 per cent.)

Giardia lamblia .. 65 (36.5 per cent.)

(b) *Cysts and Ova* (532 persons)

Entamoeba histolytica .. 65 (12.4 per cent.)

Giardia lamblia .. 136 (25.5 per cent.)

Ascaris lumbricoides .. 10 (1.9 per cent.)

Ancylostoma duodenale .. 3 (0.6 per cent.)

It was obvious that the mass treatment for ascariasis in November, 1964, had been effective in reducing the incidence from 10 per cent. to 1.9 per cent.

Between March and June, 1965, four mass treatments were given at Palm Island as follows:—

- (i) For ascariasis using the drug piperazine (Antepar)
- (ii) For hookworm using the drug bephenium hydroxynaphthoate (Alcopar)
- (iii) For giardiasis using the drug mepacrine (Atebrin)
- (iv) For amoebiasis using the drug entamide furoate (Furamide)

Following the last of these treatments, 169 specimens were obtained from persons who had been found positive for *Entamoeba histolytica* or *Giardia lamblia* or both in the earlier 1965 survey. The results from these specimens are as follows:—

1. Of 53 persons previously passing cysts of *E. histolytica* only three (or 5.7 per cent.) remained positive for cysts. This represents a reduction from 12.4 per cent. of the whole population passing cysts before treatment to 0.7 per cent. after treatment.
2. Of 73 persons previously passing cysts of *Giardia lamblia* only ten (13.7 per cent.) remained positive for cysts. This represents a reduction from 25.5 per cent. of the whole population passing cysts before treatment to 3.5 per cent. after treatment.
3. Of the 169 persons examined only one (0.6 per cent.) remained positive for *Ascaris* and one (0.6 per cent.) remained positive for hookworm.

This is considered to be a most favourable result. A follow-up programme is being formulated so that these figures can be maintained or even improved upon.

Infective Hepatitis

Despite the reduction of notifications of infective hepatitis from 1,535 cases to 795 cases, this disease still causes concern. Control is difficult. In 1961, when the successful cultivation of the causative virus was reported, it was hoped that this would be followed by a preventive vaccine. Unfortunately, these early reports have not been substantiated and so far no immunization procedure is available.

At present preventive methods available are the short-lived protection of gamma globulin given to close contacts and good sanitation and personal hygiene, with particular attention to disposal of faeces.

From Table XIV it will be seen that the bulk of cases reported came from the age groups five to fifty years. It is possible that more cases than are reported are occurring in the 0-4 years group as the disease in this group does not always show the typical sign of jaundice. The disease occurred in many areas of the State and whilst the numbers reported in the winter months were lower than other times of the year, it was prevalent throughout the whole twelve months.

TABLE XIV
SHOWING AGE DISTRIBUTION OF 795 NOTIFIED PATIENTS WITH
INFECTIVE HEPATITIS NOTIFIED DURING 1964-65

Age Group in Years	Number of Cases	Percentage of Total Cases
0-4	27	3.4
5-14	255	32.1
15-24	164	20.6
25-34	144	18.1
35-49	126	15.9
50 years and over ..	70	8.8
Not stated	9	1.1
Totals	795	100.0

Leptospirosis

Leptospirosis is a disease which affects certain occupations. The reservoirs of infection include cattle, pigs and rats. The principal occupations at risk in this State are cane cutters, dairy farmers and meat workers. Compared with the previous year when 81 cases occurred, there was a slight increase to 99 notifications. The dairy industry supplied thirty-seven cases. Another thirty-four notifications were from meat workers. The cane industry supplied only twelve cases. Of the remaining sixteen cases, many had occupations which would expose them to the disease such as council employees, a soil tester, and a kangaroo shooter. Of seven female cases, six lived on dairy farms, the remaining case was a trainee nurse but there was no obvious link with her occupation. Six school children suffered from the disease. All of these came from dairy or cane farms. Table XV sets out the statistical divisions in which the cases occurred, the age groups, hospitalization and sex.

TABLE XV

SHOWING GEOGRAPHICAL LOCATION ACCORDING TO STATISTICAL DIVISIONS AND AGE GROUPS OF PATIENTS WITH LEPTOSPIROSIS NOTIFIED DURING 1964-65

Statistical Divisions	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70 and over	Un-known	Totals	In Hos-pital	Not in Hos-pital	Males	Fe-males
Metropolitan	3	3	2	4	..	..	..	1	13	6	7	12	1
Moreton	7	1	4	2	2	2	..	..	18	7	11	15	3
Maryborough	3	..	3	2	..	..	..	8	7	1	8	..
Downs	2	1	6	2	..	1	..	..	12	6	6	12	..
Roma	1	1	1	..	..	..	..	..	3	2	1	3	..
South Western	1	..	..	..	1	..	1	1	..
Rockhampton	1	..	5	1	..	1	1	..	..	9	3	6	7	2
Central Western	1	..	..	..	..	..	..	1	1	..	1	..
Far Western
Mackay	1	1	..	..	..	..	..	..	2	2	..	2	..
Townsville	1	..	..	..	..	1	1	..	1	..
Cairns	2	5	10	7	4	2	1	..	..	31	27	4	30	1
Peninsula
North Western
Outside Queensland
Totals	3	19	26	21	16	8	5	..	1	99	62	37	92	7

Malaria

Thirty-nine cases of malaria were notified. Except for one case, all were contracted outside the mainland of Queensland. The case originating in Queensland appeared to be a relapse of the disease in a soldier who two years previously had joined an Army Unit at Canungra. Members of this unit had been in New Guinea, but the patient himself had not left the mainland. Four cases occurred in natives of Torres Strait Island. The remaining cases all had their origin outside Queensland territory, mainly New Guinea. The World Health Organisation in its malaria campaign registers countries as areas from which malaria has been eradicated. Consideration is being given to having Queensland so registered.

Poliomyelitis

For the second year in succession no confirmed cases of poliomyelitis occurred. There were eight notifications of the disease, but after investigation of faecal and serum samples by the Queensland Institute of Medical Research and assessment by the Poliomyelitis Surveillance Committee of the National Health and Medical Research Council, none were confirmed as positive cases.

While this is pleasing to report, it is necessary to issue a warning note. During the twelve months under review, it would appear that the only persons receiving Salk vaccination were young infants. At the end of June, 1964, it was estimated that only 19 per cent. of persons aged 15 years

to fifty years, and only 56 per cent. of children had received four Salk vaccine injections (the recommended schedule of protection).

There is still a large group of unprotected people in the community and should poliovirus appear again in Queensland, these will be at risk.

Q. Fever

Notifications for Q. fever increased from 184 cases in 1963-64 to 312 cases this year. Table XVI sets out the age groups, sex and statistical divisions from which the cases were reported. Included in the total are 59 cases from the Maryborough district. Of these, 53 occurred in a sharp outbreak at a combined meat and poultry abattoir. Twenty-eight cases occurred in the poultry section and sixteen in the meat section, while the remainder came from employees whose duties took them into both sections. The number of cases in poultry workers suggested an investigation into the possibility of the origin of the outbreak in poultry. All attempts to incriminate this source failed. Blood from poultry farmers who supplied the birds and that from subsequent fowls proved serologically negative. It must be concluded that the infection arose from the placenta of pregnant cows being slaughtered and the organisms were spread by air to the adjacent poultry section. Other notifications came from meat workers, dairy farmers and pastoral workers in other parts of the state. There were fourteen female cases. Five of these were women employed in the chicken section at the Maryborough Abattoir. The remainder lived on dairy farms.

TABLE XVI

SHOWING DETAILS OF GEOGRAPHIC AND AGE DISTRIBUTION OF 312 CASES OF Q. FEVER NOTIFIED DURING 1964-65

Statistical Divisions	0-9	10-19	20-29	30-39	40-49	50-59	60-69	70 and over	Un-known	Totals	In Hos-pital	Not in Hos-pital	Males	Fe-males
Metropolitan	17	20	10	7	8	1	..	3	66	32	34	64	2
Moreton.. ..	1	19	12	6	5	5	..	..	2	50	30	20	45	5
Maryborough	14	16	4	11	7	2	..	5	59	7	52	54	5
Downs	15	12	5	10	2	2	..	..	46	20	26	46	..
Roma	1	11	4	1	3	1	..	1	22	14	8	22	..
South Western	6	5	3	..	..	..	..	14	10	4	14	..
Rockhampton	2	1	1	1	2	..	..	..	7	5	2	7	..
Central Western	12	1	..	1	..	..	..	14	5	9	14	..
Far Western	1	..	1	..	..	..	..	..	2	..	2	2	..
Mackay	1	..	1	..	..	..	..	..	..	2	2	..	1	1
Townsville	1	1	4	1	..	3	..	..	10	8	2	10	..
Cairns	2	4	3	6	3	..	..	..	18	8	10	17	1
Peninsula
North Western	1	1	..	..	..	..	..	..	2	..	2	2	..
Outside Queensland
Totals	2	73	97	44	45	31	9	..	11	312	141	171	298	14

Smallpox

The only cases of smallpox ever reported in Queensland were five mild cases which occurred at Toowoomba in 1913. Whilst other States have not been so fortunate, the distance of this country from other countries and a vigilant Commonwealth Quarantine Service has kept Australia relatively free of this serious disease. In former years the sole means of reaching Australia was by sea and the time taken gave

any case of smallpox a sufficient period in which to develop and quarantine measures could generally prevent its entry. However, the advent of air travel has changed the picture. No longer is the period of travel sufficient to allow the disease to develop en route. Despite strict quarantine precautions, a modified but infective case or even a person with a false vaccination certificate developing the disease in serious form may enter the country.

For these reasons vaccination against smallpox is now recommended. Out of a total of 132 local authorities, 74 include smallpox vaccination in their immunization campaigns. It is pleasing to note the recent announcement that the Brisbane City Council will add this type of vaccination to the list of protective measures already in force. As Brisbane is the major port of entry in the State for any type of travel, a population unprotected against the disease is definitely at risk. It is hoped that other local authorities not already doing so will also commence smallpox vaccination in the near future.

Tetanus

Twenty-five cases of tetanus were notified, A comparison of these cases with those for the years 1945-49 published in the annual report for the year 1949-50 is interesting. Two facts stand out. Firstly, there has been a definite change in the incidence according to age groups. In 1945-49 from a total of 160 cases, 63 (or 39 per cent.) came from the 1-14 years age group. In the 1964-65 cases only 4 cases (16 per cent.) from a total of 25 cases occurred in the same age group. Immunization against tetanus was commenced as a routine procedure in this State approximately thirteen years ago. It is considered that this shift in age incidence is the result of this immunization. (The Chief Medical Officer, School Health Services, has advised that during

TABLE XVII
SHOWING THE INCIDENCE IN VARIOUS AGE GROUPS AND DEATH FROM TETANUS FOR THE TWO PERIODS 1945-49 AND 1964-65

Age Group	1945-49		1964-65	
	Number	Percentage	Number	Percentage
Under 1 year ..	6*	3.75	Nil	Nil
1 to 14 years ..	63	39.38	4	16
15 to 29 years ..	35	21.87	5	20
Over 30 years ..	56	35.00	16	64
	160	100.00	25	100
Deaths	89	56	6	24

* All neo-natal cases

1964-65, 93 per cent. of seven-year-old children had received Triple Antigen which provides protection against tetanus, as well as diphtheria and whooping cough.)

The second point to be noted is the improvement in prognosis. There has been a decrease in the fatality rate from 56 per cent. in 1945-49 to 24 per cent. in 1964-65. In addition to the administration of tetanus antitoxin, the present-day treatment includes the use of antibiotics, muscle relaxants, tracheotomy, and where necessary a respirator. This improved treatment is no doubt responsible for the reduction in the fatality rate.

SECTION OF AIR POLLUTION CONTROL

It is disappointing to record slow progress in implementation of air pollution control in Queensland. This has been due to unavoidable delays. The position of Director of Air Pollution Control was created and advertised in Australia and overseas. The applicant selected withdrew after being appointed, and this led to further delay. Eventually, Mr. Alan Gilpin was appointed Director. Mr. Gilpin has had extensive experience in the problems of combustion in Great Britain. He is due to take up duty in August, 1965.

Another cause of delay has been the building in which air pollution control services were to be developed. The new division was to be accommodated in the School Health Services building when it was vacated, but when plans had been drawn, advice was received that this was no longer available. Consequently, the former Seamen's Mission building at the corner of Adelaide and Macrossan Streets was recently purchased, and the ground floor will be converted to the use of the Division. This is a satisfactory site.

With the arrival of the Director, other scientific and technical appointments will be made to enable a start to be made on control measures. On May 8, 1965, "The Clean Air Act of 1963" was proclaimed in the Ipswich and Greater Brisbane areas. As air pollution in these areas is reduced, it is expected that other areas which contain heavy industry will also be proclaimed from time to time.

Five of the six Australian States have now passed legislation to control pollution of the air. There is no doubt that some Australian cities already have undesirably high levels of certain pollutants, some of which could have adverse effects on the health of city dwellers. The air above industrial areas does not have unlimited capacity to disperse emissions discharged into it.

HANSEN'S DISEASE

(1) HANSEN'S DISEASE IN THE WHITE POPULATION

Medical Supervision: M. H. GABRIEL, B.Sc., M.B., B.S. (Q'ld.), D.P.H. (Sydney), A.R.A.C.I.

STATISTICS

—	Males	Females	Total
(a) Calendar Year, 1964			
Persons in isolation at 1st January, 1964	6	2	8 (i)
Admitted	2	1	3
Discharged	1	..	1
Discharged to Home Isolation ..	1	..	1
Died	2	1	3
Persons in isolation at 31st December, 1964	4	2	6 (ii)
(b) Financial Year, 1964-65			
Persons in isolation at 1st July, 1964	4	2	6 (i)
Admitted	3	1	4
Discharged .. .. .	..	..	..
Discharged to Home Isolation ..	1	1	2
Died	1	1	2
Persons in isolation at 30th June, 1965	5	1	6 (ii)

The totals marked (i) include three persons and those marked (ii) include two persons given special permission to remain in hospital although eligible for discharge.

The following comments refer to the financial year 1964-65.

There were only four admissions to isolation during the year. One of these was a re-admitted male patient with no clinical signs of active Hansen's Disease but who gave a positive bacteriological test on routine follow-up examination. His home conditions were such that it was considered expedient to re-admit him to isolation for further intensive treatment. The other three were new admissions, one a young woman with minimal signs who showed rapid improvement and was discharged to home isolation in a little over six months, the second a male patient with moderately advanced disease who was accepted on transfer from the Northern Territory, and the third an aged male patient in extremely poor health who died soon after admission.

Of the patients released to home isolation, one was the young woman mentioned above and the other a male patient who had had two admissions but despite this was in good physical condition on discharge.

The patients who died were the aged male referred to above and one of the blind and handicapped aged women patients who had been given special permission to remain in hospital although she had been eligible for discharge for some years. She had attained the age of eighty years a few months before her death.

Drug treatment, accommodation, and general management of white patients have remained unchanged for the past several years and the current management appears to be quite adequate and satisfactory. Details are contained in previous annual reports.

(2) HANSEN'S DISEASE IN THE COLOURED POPULATION STATISTICS

	Males	Females	Total
(a) Calendar Year, 1964			
Patients at 1st January, 1964 ..	11	7	18
Admitted	3	1	4
Discharged	3	..	3
Died	1	..	1
Patients at 31st December, 1964 ..	10	8	18
(b) Financial Year, 1964-65			
Patients at 1st July, 1964	13	7	20
Admitted	1	2	3
Discharged	5	2	7
Died	1	..	1
Patients at 30th June, 1965	8	7	18

During the financial year 1964-65 there were three admissions, seven discharges and one death.

All three of the patients admitted had family histories of Hansen's disease. The male patient was aged 67 years and had relatively early signs; his daughter had been a patient some years previously. One of the females, although admitted from Cherbourg Aboriginal Settlement, came originally from the Atherton Tableland, and from a family many of whom have been patients. She had been receiving treatment as a suspect for some time prior to her admission. The other female was a re-admission. She showed minimal signs and was detected as the result of a routine follow-up examination.

The seven discharged patients were all well and in good physical condition at the times of their discharges.

One male patient aged 26 years died as the result of a congenital cardiac condition. His condition had been deteriorating for some time but the cardiac defect was not considered suitable for any attempt at surgical correction and it is doubtful if his general condition would have withstood such an attempt.

It is pleasing to be able to record that no new young or florid cases were detected during the year. Increased activity in the follow-up programme also failed to detect more than the one re-admitted female mentioned above.

A REVIEW AFTER SEVENTEEN YEARS OF SULPHONE TREATMENT

Fantome Island Hospital for the isolation and treatment of Hansen's disease patients was opened during 1939 and in January, 1940, the coloured patients then in isolation at Peel Island were transferred to Fantome Island. Since that time it has been departmental policy to isolate all coloured cases at Fantome Island.

Sulphone treatment was introduced into Queensland in 1947 and after a successful trial at Peel Island the drug solapsone (Sulphetrone) was brought into use at Fantome Island in 1948.

Table XVIII sets out the statistics for population, admissions, discharges and deaths at Fantome Island as at 31st December for each year from the time of its establishment as an isolation hospital up to the end of 1964, together with figures for discharged patients still surviving and the total numbers of surviving persons on the Hansen's disease register for each year.

It will be seen that except for 1940, when the coloured patients were transferred to Fantome Island from Peel Island, there has been a small but steady flow of admissions ranging from one up to 19 and averaging 6.6 per annum. The figures include re-admissions and it is still too early to detect or predict any falling off in admission rates despite the other favourable and significant changes that can be seen from the table.

The quite obvious changes following the introduction of sulphone treatment were—

- 1. The rapid decline in the number of deaths.
- 2. After an initial lapse of three to five years an increasing number of discharges followed by a continuing high proportion of discharges.
- 3. A rapid increase in the numbers of patients surviving and remaining well after discharge.
- 4. A gradual increase in the number of living persons on the register. This is obviously due to the decline in the death rate of persons in isolation and the continuing survival of discharged patients.

If the table is compared with a similar table relating to white persons published in last year's annual report, a very similar response to sulphones will be observed. There can be no doubt that the sulphone group of drugs has had and is continuing to have a profound influence in the treatment of Hansen's disease. Although other drugs, quite unrelated chemically to the sulphones, have been introduced, and have been shown to be useful in the treatment of Hansen's disease, the sulphones, and especially dapsone, remain the basic treatment. Their action is slow but a table such as that set out amply justifies continuing confidence in them.

GENERAL

The Health Officer made three visits to Fantome Island during the year in conjunction with other work which took him into the area. The details of isolation, treatment and general management remain unchanged from those recorded in the annual reports for the past several years.

The Health Officer also made a tour of some areas of the Mareeba Shire on the Atherton Tableland. A considerable number of discharged Hansen's disease patients settled in these areas were examined clinically and bacteriological tests taken. He also delivered a public lecture on Hansen's Disease at Kuranda, the town in the Mareeba Shire in and around which a considerable number of the discharged patients have settled. The lecture was well attended and received, and it is considered that many of the anxieties exhibited by the citizens of Kuranda have been allayed. The tour and lecture were requested by the Mareeba Shire Council, and the Chairman and other members attended.

The situation which arose in the Mareeba Shire illustrates the changing nature of the Hansen's disease problem in Queensland. At one time few persons survived or recovered sufficiently to be discharged from isolation or to remain long in the community before they died or suffered a relapse of the disease. Today increasing numbers are being discharged and remaining well so that the follow-up programme is now becoming the major part of Hansen's disease work. As at 31st December, 1964, there were 77 white persons on the register of whom only four were in isolation, and there were 111 coloured persons on the register of whom only 18 were in isolation.

TABLE XVIII

For Year Ending 31 December		PRE-SULPHONE									SULPHONE TREATMENT																
		1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
In isolation at Fantome Island	M	14	42	41	41	40	39	37	36	36	43	43	46	50	49	45	33	23	24	18	19	16	13	9	9	11	10
	F	12	31	37	34	33	36	35	33	34	34	30	26	22	21	22	15	6	5	6	5	4	4	3	4	7	8
Admitted into isolation	M	8	38	3	3	2	5	5	1	3	10	5	5	8	5	11	2	3	5	3	4	4	2	..	2	8	3
	F	3	24	7	2	1	4	3	4	4	4	1	1	2	..	8	1	..	..	2	1	1	..	1	2	3	1
Died in isolation ..	M	..	10	4	3	3	6	6	2	3	2	4	1	..	..	2	..	..	1	1	..	..	1	..	..	2	1
	F	..	4	1	5	2	1	4	6	3	4	4	2	1	..	..	..	1	..	1	1	..	..	..	..	..	..
Discharged during year	M	..	..	..	..	..	..	1	..	..	1	1	1	4	6	13	14	13	3	8	3	7	4	4	2	4	3
	F	..	1	..	..	..	..	..	..	..	..	1	3	5	1	7	8	8	1	..	1	2	..	2	1	..	..
Still living after discharge	M	..	..	..	..	..	..	1	1	1	1	2	3	7	12	25	35	43	45	51	53	57	58	62	61	62	62
	F	..	1	1	1	1	1	..	..	..	..	1	4	9	10	17	24	30	29	29	29	29	29	31	31	31	31
Total living in isolation and after discharge	M	14	42	41	41	40	39	38	37	37	44	45	49	57	61	70	68	66	69	69	72	73	71	71	70	73	72
	F	12	32	38	35	34	37	35	33	34	34	31	30	31	31	39	39	36	34	35	34	33	33	34	35	38	39
Totals M & F		26	74	79	76	74	76	73	70	71	78	76	79	88	92	109	107	102	103	104	106	106	104	105	105	111	111

One of the problems of follow-up is the movement of discharged patients from State to State. When details of such movements are known information is exchanged between Health Departments. Complete liaison now exists between the Northern Territory Health Services and the Queensland

State Health Department, and during the year each service was able to assist the other with information about known or suspected movements across the border. There does not appear to be nearly so much movement of ex-cases to and from the southern States.

SECTION OF ENTHETIC DISEASES

MEDICAL OFFICER IN CHARGE: GEOFFREY HAYES, M.B., Ch.M. (Syd.)

The story of venereal disease incidence in Queensland for the fiscal year 1964-65 is not one of conquest or victory. Despite progress in other fields of public health, there has been a failure to stem the tide of venereal disease incidence—notifications of both syphilis and gonorrhoea showing an increase.

This of course is not a Queensland problem—it is world wide and stems in some measure at least from an attitude of complacency that antibiotics had solved the problem. Clinic staffs were retrenched—votes were cut—and efforts were diverted elsewhere. Medical journals the world over have reported the same story in recent years.

There have been notable advances in knowledge and technology of the venereal diseases, such as immunofluorescence techniques, culture and sensitivity testing, and a gradual untangling of the non-specific urethritis complex, &c. These have been mostly in the academic and laboratory field, with, as yet, little translation or practical application to the clinics.

With the almost certain escalation of hostilities to the North and the increase of the armed services, a further increase in venereal disease incidence can be forecast.

Table XIX shows in summarised form the incidence of notified venereal disease in Queensland for 1964-65—some 1,540 cases as compared with 1,322 last year—156 being syphilitic (73 last year) and 1,305 gonorrhoeal (1,177 last year).

TABLE XIX
NOTIFIED VENEREAL DISEASES IN QUEENSLAND, 1964-65

							Metropolitan		Outside Centres		Whole State		Total
							Males	Females	Males	Females	Males	Females	
Gonorrhoea—													
Unspecified	..	..	..	..	..	..	690	158	296	63	986	221	1,207
Acute	..	..	..	..	..	..	2	55	4	12	6	67	73
Sub-acute	..	..	..	..	..	..	1	4	2	11	3	15	18
Chronic	..	..	..	..	..	..	..	..	..	..	..	..	..
Ophthalmia	..	..	..	..	..	..	..	3	..	4	..	7	7
Vulvo-vaginitis	..	..	..	..	..	..	..	..	..	..	..	..	..
							693	220	302	90	995	310	1,305
Syphilis—													
Unspecified	..	..	..	..	..	..	41	16	19	10	60	26	86
Primary	..	..	..	..	..	..	19	12	6	5	25	17	42
Secondary	..	..	..	..	..	..	1	..	4	1	5	1	6
Tertiary	..	..	..	..	..	..	9	7	..	1	9	8	17
Latent	..	..	..	..	..	..	1	..	2	..	3	..	3
Neuro	..	..	..	..	..	..	1	..	1	..	2	..	2
Pre-natal (congenital)	..	..	..	..	..	..	..	..	..	..	..	..	..
							72	35	32	17	104	52	156
Soft Sore							18	..	2	1	20	1	21
Venereal Warts	..	..	..	..	..	..	49	2	2	1	51	3	54
Ulcerative Granuloma	..	..	..	..	..	..	1	..	2	1	3	1	4
							68	2	6	3	74	5	79
							833	257	340	110	1,173	367	1,540
							1,090		450		1,540		
							1,540						

Table XX shows the main centres from which notifications were received and the tendency shown in recent years for relatively large returns from North Queensland continues. The possibility of the North Queensland seaports being “ports of entry” was considered, but a visit by a Departmental specialist towards the latter part of 1964 to several of the northern

towns did not confirm this. North Queensland has become a tourist mecca and also attracts many seasonal workers. The impression was gained that the large body of itinerant workers associated with tourism and sub-tropical farming are accounting for far more than seamen. Jobs are easy to get and those with itchy feet have no trouble in moving around freely.

TABLE XX
CENTRES OF NOTIFICATION OF VENEREAL DISEASE
OUTSIDE METROPOLIS

Centre	Males	Females	Total
Atherton	7	..	7
Ayr	9	..	9
Biloela	3	..	3
Boonah	1	1	2
Bowen	1	..	1
Bundaberg	1	1	2
Cairns	35	8	43
Charleville	1	2	3
Charters Towers	9	3	12
Cherbourg	1	..	1
Cloncurry	10	2	12
Dalby	1	..	1
Dirranbandi	1	..	1
Edmonton	2	..	2
Emerald	1	..	1
Gladstone	2	..	2
Goomeri	2	2	4
Gordonvale	11	..	11
Gympie	3	..	3
Home Hill .. .. .	..	1	1
Hughenden	9	1	10
Ingham	5	2	7
Innisfail	1	1	2
Ipswich	2	4	6
Jandowae	2	..	2
Kingaroy	3	..	3
Kirra	1	..	1
Mackay	18	1	19
Mareeba	4	1	5
Maryborough	8	..	8
Mitchell	4	1	5
Mossman	17	5	22
Mount Isa	5	1	6
Oakey	1	..	1
Proserpine	3	2	5
Quilpie	9	..	9
Rockhampton	13	3	16
Southport	4	4	8
Surfers Paradise	1	..	1
St. George	4	1	5
Thursday Island	30	28	58
Toowoomba	27	13	40
Townsville	59	19	78
Tully .. .. .	..	1	1
Warwick	3	1	4
Winton	4	..	4
Wondai	2	..	2
Woody Point .. .. .	..	1	1
Totals	340	110	450

Table XXI shows the incidence per 1,000 of population for the past twenty years, the quick drop from the loaded war years to an all time low in 1951-52 and the gradual increase to the present time.

TABLE XXI
SHOWING NUMBER OF NOTIFICATIONS OF VENEREAL DISEASES
FOR PAST 20 YEARS

Fiscal Year	Notifications	Mean Population	Incidence per 1,000 Population
1944-45	2,391	1,068,630	2.24
1945-46	1,309	1,084,125	1.207
1946-47	1,373	1,093,303	1.251
1947-48	1,000	1,114,634	.897
1948-49	846	1,140,816	.742
1949-50	731	1,173,232	.623
1950-51	626	1,207,194	.519
1951-52	627	1,239,868	.506
1952-53	757	1,272,244	.595
1953-54	740	1,300,464	.569
1954-55	741	1,328,064	.558
1955-56	807	1,360,801	.593
1956-57	995	1,394,088	.714
1957-58	1,018	1,422,349	.716
1958-59	965	1,405,535	.665
1959-60	1,021	1,478,128	.691
1960-61	1,436	1,503,703	.955
1961-62	1,525	1,526,959	.999
1962-63	1,473	1,551,500	.949
1963-64	1,322	1,571,982	.841
1964-65	1,540	1,595,057	.965

Table XXII shows as usual that the amateur good time enthusiast is the main spreader of disease, and Table XXIII indicates that the state of single blessedness is not without its perils.

TABLE XXII
ALLEGED SOURCES OF INFECTION

Non-professional	1,291
Unknown	134
Not Stated	6
Professional	74
Husband	20
Wife	13
Mother	2
Total	1,540

TABLE XXIII MARITAL STATUS OF PATIENTS			
	Males	Females	Total
Single	972	247	1,219
Married	174	93	267
Separated	18	13	31
Widowed	7	12	19
Divorced	1	2	3
Not Stated	1	..	1
Totals	1,173	367	1,540

Table XXIV showing the age groups of notified cases is one that gives cause for alarm. The teenager (15-19 years) is well to the fore, young girls in this age group accounting for 158 as compared with 113 last year.

TABLE XXIV SHOWING AGE GROUP OF NOTIFIED CASES			
Age Group	Males	Females	Total
Under 1 year	2	..	2
1- 4 years .. .. .	..	..	..
5- 9 years .. .. .	..	1	1
10-14 years .. .. .	..	5	5
15-19 years	287	158	445
20-24 years	391	78	469
25-29 years	188	45	233
30-34 years	114	25	139
35-39 years	68	20	88
40-44 years	50	14	64
45-49 years	26	7	33
50-54 years	15	7	22
55-59 years	11	4	15
60-64 years	4	..	4
Over 65 years	5	..	5
Not Stated	12	3	15
Totals	1,173	367	1,540

Table XXV shows that approximately 16.3 per cent. of notifications were received from private doctors as compared with 15.8 per cent. last year.

TABLE XXV SHOWING SOURCES OF NOTIFICATION			
	Males	Females	Total
Private Doctors—			
Brisbane	68	9	77
Outside Centres	160	24	184
Totals	228	33	261
Clinics—			
Brisbane	716	234	950
Outside Centres	54	26	80
Totals	770	260	1,030
Hospitals—			
Brisbane	49	14	63
Outside Centres	126	60	186
Totals	175	74	249
Totals All Sources	1,173	367	1,540
	1,540		

It might be mentioned here that the latest returns to the Communicable Diseases Centre of the United States Public Health Service show an increase of 23,000 syphilis cases alone, since 1956, and that half of these are in the 15-24 years age group.

AD HOC VENEREAL DISEASES CLINICS

Males—Colchester Street, South Brisbane
Females—William Street, Brisbane

Treatment of venereal disease is obtainable at every public hospital in Queensland, but in Brisbane the numbers warrant the establishment of special clinics for the purpose, thus easing the load on the main hospitals. Also the spread of hours and the specialised staff and techniques are better grouped in one centre.

As proposed in last year's report, the 1964-65 project at the male clinic was to investigate the possibility of "Mimae," a mimic organism which could be confused with gonorrhoeal organisms. It is satisfying to report that in several cases this organism was isolated—apparently for the first time in any V.D. clinic in Australia. This investigation involved co-operative team work between the Health Department Laboratory staff and the male clinic staff.

The establishment of T.P.I. serology tests at Lidcombe during the year has been a big step forward for syphilologists and use has already been made of this facility. The Medical Officer of the Enthetic Diseases Section recently attended a seminar in Sydney, on Serological Tests for Syphilis, which was very helpful.

TABLE XXVI
MALE CLINIC, 1964-65

New Cases	1,898
Highest Month—March	196
Lowest Month—August	123
Monthly Average	158
Visits	14,813
Highest Month—November	1,445
Lowest Month—June	984
Monthly Average	1,234
Notifications—	
Early Syphilis—Primary	28
Secondary	11
Latent	9
Acute Gonorrhoea	602
Venereal Warts	48
Soft Sores	18
	716
Injections—	
Penicillin	1,777
Streptomycin	292
	2,069
Investigations—	
Dark Ground tests	52
Smears examined at clinic	4,566
Smears submitted to laboratory	1,527
Blood tests submitted to laboratory	2,307
Urine tests submitted to laboratory	417
Media inoculated at clinic for culture	442
	9,311
Prophylactic Treatments	793

From enquiries received from practitioners, both by letter and by phone, it is disturbing to find how little of the recent advances in venereology is reaching them and it is proposed to issue, from time to time, a small pamphlet similar to "V.D. Information" distributed by the United States Public Health Service. It is hoped that after further discussions with the Faculty of Medicine, the clinics will be enabled to fulfil their proper function of teaching centres as well as routine treatment centres.

Both clinics, as the following summary shows, have had to deal with an increased number of cases. The female clinic staff also visits the Women's Prison and certain homes for delinquent girls. With the provision of better facilities at the male prison sick bay, most cases can be coped with in prison, thereby saving the necessity of escorting prisoners to the male clinic.

Tables XXVI, XXVII and XXVIII show the returns for these two ad hoc clinics.

TABLE XXVII
WOMEN'S CLINIC

NOTIFICATIONS:—			
	Women's Clinic	H.M. Prison	Total
Gonorrhoea—			
Acute	113	33	146
Sub-Acute	46	7	53
Chronic	4	..	4
Treated	4	..	4
Syphilis—			
Primary	2	1	3
Late Primary	3	..	3
Early Secondary	2	..	2
Secondary	4	1	5
Latent	3	4	7
Treated	6	1	7
Totals	187	47	234

TABLE XXVIII

OTHER ACTIVITIES:—		
	Women's Clinic	H.M. Prison
Total Interviews	1,410	..
New Cases	375	..
Notifications	187	47
Penicillin Injections	356	155
Smears taken	1,363	606
Bloods taken	471	217
Patients cultured	570	..
Cultures taken	1,143	43
Trichomonas tests	91	..
Trichomonas treated	82	..
Monilia treated	34	..
Dark Ground tests	13	..
Prisoners examined .. .. .	..	301

SECTION OF FOOD AND DRUGS

FOOD

This section administers the relevant sections of the Health Acts and the Food and Drug Regulations, together with the Milksellers Regulations and the Health (Food Supply) Regulations. It also proffers advice to Local Authorities and supervises their activities in the implementation of the Cafe Regulations and the Health (Food Hygiene) Regulations.

The work of the section involves supervision of some aspects of food production and all aspects of food manufacture, preparation, packaging, distribution, storage, labelling and retail sale. Only the more important aspects of this work can be covered in this report.

Milk and milk products

All factories producing pasteurised milk and all plants bottling milk have been visited at regular intervals. Samples of milk have been obtained at all points of production and distribution and submitted for analysis and bacteriological examination. Vehicles used for the retail delivery of milk have been inspected and orders issued to bring them to the required standards when this has been found necessary.

In many areas of Queensland plants have been established to bottle milk which has been heat-treated to pasteurising temperature at one of the major centres and transported in bulk containers. All such plants require the approval of the Director-General. Regular sampling of bottled milk from such plants shows that these outlying centres, where previously milk quality depended on the vagaries of the weather, can now enjoy an ample supply of milk of satisfactory quality the year round. A new plant of this type was opened at Cloncurry. It is desired to record appreciation of the ready co-operation of local authorities in arranging for regular collection of milk samples from pasteurising and bottling plants.

Details of samples obtained for bacteriological and chemical analysis may be found in the reports of the Laboratory of Microbiology and Pathology and the Government Chemical Laboratory respectively. As a result of activities, four persons were convicted and fined a total of £90 and £13 4s. costs in respect of the offence of selling milk adulterated with water, whilst four persons were convicted and fined a total of £40 and £22 9s. 6d. costs for selling milk deficient in milk fat. In addition, one person was fined £5 and £3 6s. costs for a breach of the Milksellers Regulations in respect of bottled milk not correctly labelled.

Other milk products, such as butter, cheese, flavoured milks and ice cream have also received attention and numerous samples have been obtained for analysis. In each instance, where corrective action has been indicated by analyses, it has been taken. Details of samples of these products may be seen in the respective laboratory reports.

Minced meats, sausages, &c.

Despite the fact that meat and meat products have been regularly sampled for many years, it is still apparent that some butchers are prepared to commit breaches of the law by the use of preservative in minced meat or by the use of excess quantities of preservative in sausages and sausage meats. Such offences are inexcusable in these days, when modern refrigeration affords ample means of keeping meats fresh, without recourse to the use of preservative. As a result of activities, 53 successful prosecutions for the offence of using preservative in minced meat were undertaken, resulting in the infliction of fines totalling £538 10s. and £184 7s. in costs. Previous convictions were proved in five of these cases, two of them being for fourth offences. Twenty prosecutions were successfully undertaken for offences in respect of excess preservative and for deficiencies in meat content in sausages or sausage meat, as a result of which magistrates inflicted a total of £263 in fines and £63 7s. in costs. Again it is noteworthy that four of these offenders had previous convictions for similar offences. Two butchers were fined for their refusal to sell samples of minced meat, whilst another butcher was convicted and fined for obstructing an officer in the execution of his duty. Fines for these offences totalled £23 and £3 12s. in costs of court.

Breads, flours, &c.

A close check was kept on the quality of bread being sold to the public. The numbers of samples obtained are shown in the report of the Government Chemical Laboratory. Where failures to comply with prescribed standards for the various classes of bread were found, appropriate action was taken to secure the necessary improvement. It is pleasing to report good co-operation by bread manufacturers. Over the years, there has been a steady and appreciable increase in the proportion of bread pre-wrapped at bakehouses. Labelling of wrapped breads has been checked and all steps taken to ensure that such breads are properly described. Regular sampling of flours has been carried out at flour mills. A consistently good standard was achieved by millers, any minor deficiencies brought to their notice being readily corrected.

Soft drinks, cordials, &c.

Trade in these commodities is large in this State and officers have paid due attention not only to factories but also to soft drinks and cordials to ensure production under hygienic conditions, and conformity to prescribed standards. Generally, such products have been found conforming to prescribed standards, whilst labelling checks indicate that, in the main, they are properly described. The trend in factory improvement continues. Details of samples may be seen in the report of the Government Chemical Laboratory.

Food manufacturing and processing premises

The inspection of premises where food is manufactured, processed and packed is an important part of the section's activities. Conditions found ranged from poor to good, and positive action has been taken in regard to all premises considered to be sub-standard. As a result of departmental action, major works were undertaken and completed at several premises, whilst plans in respect of other premises have been sighted and approved. A continuance of this work will ensure the satisfactory standard of premises, so vitally necessary for the hygienic production of the public food.

Hotels, liquor testing, glasswashing, &c.

Testing alcoholic liquors has been carried out and as a result, four successful prosecutions for the sale of adulterated liquor were undertaken, resulting in the infliction of £47 in fines and £17 10s. in costs.

Particular attention was paid to the denaturing of waste beers by publicans and corrective action was taken by officers when faults were detected. Such action was generally successful. However, it was found necessary to prosecute one licensee for a continued breach of the law. He was convicted and fined £3 for the offence with £3 6s. costs of court.

Though there has been a general acceptance by licensees of the legislation requiring a clean glass for each drink, there are still some persons prepared to ignore it. Thirty-one persons were convicted for breaches of this law and were fined a total of £164 with costs totalling £38 4s.

Wine

During the year a survey of wine makers in the Stanthorpe district was carried out. The work involved inspections of premises and sampling of products of the various manufacturers. Although the majority of wine samples were found to conform to prescribed standards, it is disappointing to report that most premises left much to be desired. Appropriate action has been taken by the department to ensure that all such premises conform to the standard prescribed by the regulations.

Fish

Inspection of fish was carried out by the two officers stationed at the Fish Markets. 35 tons 5 cwt. 3 qrs. and 12 lb. of fish, together with 1,093 crabs were found unfit for human consumption and were destroyed. The quality of fish being sold to the public at retail premises was also checked.

Inspections were carried out by district officers at country fish depots, as a result of which 17 cwt. 14 lb. of fish was found to be unfit for human consumption and was destroyed.

Labelling

It is considered that the label attached to any package of food should provide the purchaser with an accurate description of the nature and quality of the contents and that it should not deceive him by including misleading words or pictorial designs. In addition the label must show all of the details required by the relevant law.

The checking of labels is, therefore, an important part of the work of the division.

By and large the trade co-operates very well in correcting faults brought to their notice and an increasing number of labels are being submitted in draft form for approval from both local and interstate packers.

Complaints

Numerous complaints of defective foodstuffs and of foreign objects in food were received and the necessary action taken.

Bacteriological examinations, &c.

In addition to legal samples, nearly 400 check samples of foods for bacteriological sampling were submitted. They included confectionery, fish, meats and smallgoods, milks and milk products, oysters and waters. A number of products were submitted for checks of disinfectant value.

Chemical examinations

In addition to legal samples, details of which may be seen in the report of the Government Chemical Laboratory, over 2,000 unofficial check samples of food were submitted for chemical analysis for the purpose of checking compliance with prescribed standards, or with labelling provisions, or for general wholesomeness. It is a varied list and includes beverages and cordials, breads, confectionery, fish, fruit, meat, milk and milk products, spirits, and vegetables.

Legislation

During the year the major task of consolidating and amending the Food and Drug Regulations was completed and the new Food and Drug Regulations were gazetted late in 1964. As the result of the activities of the National Health and Medical Research Council, a considerable measure of uniformity of food standards has been achieved between States. Activities in this respect are continuing and the Chief Inspector of Food and Drugs, who is a member of the appropriate committee, attended two further conferences.

Unsound food

The quality of food is checked at all avenues of sale. As a result, 24 tons 8 cwt. 3 qrs. and 3 lb. of unsound food was destroyed under departmental supervision. In addition, 1,200 packets of cereals, 3 cartons of confectionery, 4 bottles of cordial, a quantity of ice cream and other frozen products, a quantity of frozen poultry, 12 bottles of whisky and 2 bottles of wine, together with a quantity of cigarettes, cigars and tobacco were similarly dealt with.

POISONS AND DRUGS

The law administered in the control of poisons and drugs consists of the relevant sections of the Health Acts, the Poisons Regulations, the Dangerous Substance Regulations, the Health (Insecticide) Regulations and the Dispensary Regulations.

Officers have carried out inspections at all levels of poison and drug distribution, whether wholesale or retail. This has involved visits to drug warehouses, wholesale licensed poisons dealers, retail poison dealers, and pharmaceutical chemists. Particularly in regard to dangerous drugs, activities of professional men in respect of their dealings with drugs have come under review, whilst similar attention has been paid to transactions in drugs at hospitals, institutions and convalescent homes. Generally, there has been a very satisfactory measure of compliance with the law, but, in a few instances, corrective action was found necessary and such action was promptly undertaken.

One of the important features of the year's work was the checking of the packing and labelling of poisons and drugs. The purpose of labelling requirements is to ensure that the purchaser is made fully aware of the nature of and the hazards associated with the product and consequently this work is of major importance. In view of the ever-increasing flow of new preparations on to the market, there has been a decided increase in this particular phase of the staff's work. In this regard, an improvement was noted in the labelling of poisons and drugs coming from other States since their

adoption of the principle of eight schedules. Local packers have not been overlooked and it is expected that defects in the labelling of poisons will soon be quite uncommon.

Supervision has been exercised on the quality of drugs on the local market and, whenever opportunity offered, check samples have been obtained for analysis. A survey of headache powders was carried out and, although it was found that the majority conformed to requirements, it was necessary in two instances to take up matters of defects with the packers. The firms concerned took immediate steps to rectify the faults. The quality of drugs, particularly the more common ones, which are freely available to the public, is important and it is proposed to extend these surveys.

Over the years excellent co-operation has existed between the department and the trades concerned with the packing and marketing of poisons and drugs, and this co-operation continued during the past year. Advice on the scheduling and labelling of new lines has been freely sought by the trade and, consequently, the proper presentation of the new lines has been achieved with the minimum of friction. As a result of such submissions and of departmental activities in checking lines currently on the market, more than 300 samples were submitted to the Government Chemical Laboratory.

This State has stringent regulations dealing with claims on labels and in advertising for drugs and medicines and close attention has been paid to these matters during the past year. However, national advertising has posed its problems in this regard. The matter of false and exaggerated claims for drugs and medicines is now receiving attention with a view to having uniform legislation throughout the Commonwealth. If this can be achieved, a very positive step forward will have been taken.

One amendment was made to the Poisons Regulations, when a new regulation was introduced prohibiting the sale and use of certain drugs, which presented a hazard felt to outweigh any therapeutic value they possessed. This prohibition received ready acceptance by the trade.

Uniformity of poisons schedules between the States is a very desirable object and the Committee of the National Health and Medical Research Council, charged with this particular work and of which the Chief Inspector of Food and Drugs is a member, met on several occasions during the year. Though the basic schedules have been decided, there is ample work in consideration of variations in the Schedules in the light of increased knowledge about substances and in the allocation to Schedules of the many new poisons and drugs now being produced. These variations and allocations necessitate many amendments to our Schedules and it is proposed to incorporate these in one major amendment each year.

During the year, a medical practitioner was convicted and fined £5 with £1 4s. costs for his failure to keep a record of his transactions in dangerous drugs, whilst two chemists were convicted and fined £10 each, with £1 4s. costs of court each for the offence of selling restricted drugs other than on prescription. The Police Department, with the consent of the Director-General, successfully prosecuted a person for a breach of the Poisons Regulations in respect of restricted drugs, the magistrate inflicting a total of £8 7s. in fines and costs. One complaint for the uttering of an illegal prescription for a restricted drug was not continued, as the defendant could not be located, having apparently left the State.

DANGEROUS SUBSTANCES REGULATIONS

Work has proceeded steadily during the year on the implementation of these regulations and there has been a very high degree of compliance with packing and labelling requirements, particularly in regard to the basic petroleum distillate products. However, these do not exhaust all the substances defined by law as "dangerous," and there are very many household products which come into this category. The appearance of new lines or of packs with altered formulations, means that vigilance cannot be relaxed and constant inspection of these products has been maintained. Much use has been made of the Government Chemical Laboratory to determine whether products come within the scope of the Dangerous Substances Regulations. Where this is the case, the appropriate action is taken to rectify any defects in packing and labelling.

Little difficulty was encountered with local packers, whose co-operation in submitting proposed packs for advice is appreciated. However, difficulty is often encountered with lines of interstate origin, due to differing legislation, or to lack of equivalent legislation. This is a position which has been recognised by the National Health and Medical Research Council, under the auspices of which body, moves have been proposed, which, if accepted by all States, should result in uniform requirements for dangerous substances.

These regulations have been in force in Queensland for some four years and we should soon be in a position to assess their value. The purpose for which they were made was to reduce the incidence of accidental poisoning in the home, particularly amongst children. In the ensuing year it is proposed to secure information for comparison with the incidence of accidental poisoning before regulations came into force and it is confidently felt that, if proper cognisance has been taken of the cautionary labelling, there should be an appreciable improvement in the position.

HEALTH (INSECTICIDE) REGULATIONS

Prior to gazettal of the Dangerous Substances Regulations, a multiplicity of insecticides on the market came within the scope of the Health (Insecticide) Regulations and consequently the implementation of these regulations formed a big part of the staff's activities. As a large percentage of spray insecticides have petroleum distillates as the solvent for the active chemical constituents, they now qualify as dangerous substances and are subject to the more restrictive packing and labelling requirements of the Dangerous Substances Regulations. However, there are still insecticides which do not so qualify, and the staff has, during the year, carried out any necessary inspections of such products, with the taking of any corrective action indicated.

DISPENSARY REGULATIONS

Close attention was paid to the requirements of these regulations by the staff, and inspections have been carried out at dispensaries, whether they were at chemists' premises or at hospitals or institutions. It was found that the majority of dispensaries were equipped with the apparatus and documents necessary for efficient dispensing. During the year, metric prescribing and dispensing became a reality. The requirements of the Dispensary Regulations for dispensaries to be equipped with metric weights and measures proved very valuable in the transition from apothecaries weights and measures to the metric system.

SECTION OF ENVIRONMENTAL SANITATION

Although the Director-General is, subject to the Minister, charged with the administration of "*The Health Acts, 1937 to 1964*," it is the Local Authorities who actually administer the provisions of the Act relating to environmental sanitation. To enable them to assume fully their responsibilities they avail themselves of the services of Medical Officers of Health and Health Inspectors. The former furnish any professional advice required and the latter do the field work and make recommendations for the proper administration of the law.

As at the 30th June, the distribution of health inspectors employed by Local Authorities was as follows:—

Brisbane City Council	..	..	..	41
Cities and Towns	..	..	..	54
Shires (not in joint areas)	..	..	..	36
Joint Areas (more than one shire)	..	..	..	29
Total	..	..	..	160

The Director-General is kept informed of how the Act is administered by sanitary survey reports from his own officers whose activities cover the greater part of the State; from the quarterly reports submitted by the Local Authority inspectors and the annual reports on Public Health Administration submitted by the Local Authorities; and by reports from Medical Officers of Health. From these sources, but principally from inspectors, the following report is compiled.

SEWERAGE AND NIGHTSOIL

Fifty-three (53) cities or towns in this State either have a sewage treatment plant operating or have one under construction. Some Local Authorities have installed septic tanks at each premises in the town, in place of a complete sewerage scheme. This leaves the occupier of the premises the problem of disposing of waste waters from kitchen, bathroom and laundry. One of our officers, in whose area some towns have had septic tanks installed for a number of years, reports that "an appreciation of the need for the regular desludging of septic tanks is lacking. Only when a tank goes 'sick' is action taken."

However, there are still many parts of the State which have no water carriage system for disposal of nightsoil and must depend on the pan system for the collection, removal and disposal of human wastes. Because of the danger of the spread of intestinal disease, such a service needs to be carefully performed. Reports indicate that Local Authorities generally are well aware of their responsibilities in this respect. Minor defects are noted from time to time but these are usually promptly remedied when drawn to the notice of the authority concerned.

REFUSE COLLECTION, REMOVAL AND DISPOSAL

It is regretted that it must again be reported that, while most Local Authorities ensure that refuse is collected and removed satisfactorily, too often the disposal leaves much to be desired. Refuse is removed regularly and deposited at an approved site but sometimes is left uncovered for lengthy periods until suitable earth moving equipment is in the vicinity to effectively spread the soil or ashes used for covering. Waste foods provide food for rats and/or a breeding grounds for flies, while bottles and tins holding water provide breeding sites where mosquito larvae have excellent protection from natural enemies.

In recent years some Local Authorities, to reduce the volume of covering material required at the approved refuse tip, have set aside areas where the public may deposit bulky articles. More recently, in an effort to cope with the world-wide problem of the "litterbug"—the person who defiles our highways by depositing all manner of refuse on the roadside—some Local Authorities have established householders' tips. Whether they be public or householders' tips, they are intended as places where the community may deposit unwanted material but not putrescible matter which should be placed in the garbage bin for removal to the controlled tip. Unfortunately many persons do not recognise this and these tips often become uncontrolled refuse tips.

RODENT CONTROL

Bubonic plague epidemics have struck this State in the past but for very many years the Commonwealth Quarantine Service has prevented plague infected rats from getting ashore from ships coming from ports where plague is endemic. As a second line of defence, Local Authorities at the principal seaports have maintained a rodent control unit to keep the rodent population to a minimum.

Table XXIX shows the number of rodents destroyed at seaport and near seaport cities during 1964-65.

TABLE XXIX
SHOWING RODENTS DESTROYED IN PRINCIPAL CITIES IN QUEENSLAND DURING 1964-65

City					Rats	Mice
Brisbane	..	..	..	..	42,749	2,965
Bundaberg	..	..	..	..	270	..
Cairns	..	..	..	..	1,016	427
Gympie	..	..	..	..	152	..
Ipswich	..	..	..	..	683	..
Mackay	..	..	..	..	1,404	696
Maryborough	..	..	..	..	265	..
Rockhampton	..	..	..	..	640	..
Townsville	..	..	..	..	1,065	..
Totals	..	..	..	..	48,244	4,088
Total all rodents 1962-63	..	..	..	..	..	65,238
Total all rodents 1963-64	..	..	..	..	..	57,919
Total all rodents 1964-65	..	..	..	..	..	52,332

Rodents are also vectors of diseases other than bubonic plague. Murine typhus and leptospirosis have their reservoir in rodents. Local Authorities generally exercise some control by rat proofing of buildings, and in some instances by the issue of free baits.

WATER SAMPLING

This department has continued the service, to the public and Local Authorities, of providing sampling bottles, having the water examined and an interpretation of the results by a Medical Officer. Property owners and Local Authorities have availed themselves freely of this service.

An increasing number of Local Authorities regularly check the bacteriological quality of their established water services.

A total of 285 chemical and 734 bacteriological water samples were submitted to the Government Chemical Laboratory and the Laboratory of Microbiology and Pathology for examination regarding suitability for human consumption.

WATER POLLUTION

As a result of deliberations by the committee which has the pollution of the Brisbane River and beaches under review, the sampling was intensified and both the State and the

Brisbane City Council are examining samples. To the 30th June, this department has submitted 864 samples of river water and 164 samples of water from the beaches in Moreton Bay to the north of the mouth of the river, for estimation of dissolved oxygen (D.O.), biochemical oxygen demand (B.O.D.), salinity and pH. In addition, 49 samples from the river and 74 from the beaches have been submitted for bacteriological examination.

These samples are taken at regular intervals from specified points. It is hoped to complete the survey during the coming year when the results of examinations by both the State and Brisbane City Council will be considered and a report made on the findings.

Under an agreement between the Australian Paper Manufacturers Pty. and the Director-General, the company is permitted to discharge its waste process water to the North Pine River under prescribed conditions. To ascertain that the agreement is being kept, 192 samples of river water from the North Pine River and 31 samples of the waste process water have been submitted for chemical analysis.

Thirty-four (34) chemical samples of effluent from different sources and 39 bacteriological samples of sewage effluents have been submitted for examination in connection with possible water pollution.

It is usual to rely on the residual chlorine tests as an index of safety in swimming pool water, but one chemical and 48 bacteriological samples from swimming pools were submitted for examination.

TOYS

A close watch was maintained on the sale of toys. It is very pleasing to note that the co-operation which exists between the distributors and the Department has continued and our officers have found nothing to warrant legal action. Twenty-six non-legal samples were submitted for analysis for lead. Four of these were found to contain lead. They were a small part of some old stock. The owner readily disposed of them out of the State and no legal action was taken.

PAINT

On 16 non-legal samples of paint scrapings, 7 were found to contain lead. These non-legal samples are from a variety of sources and when found to contain lead, an officer visits the premises and obtains legal samples of various paints on the different parts of the premises.

Of 32 legal samples, 23 were found to contain excessive lead. The Director-General requested the removal of the offending paint from the four premises covered by the 23 samples. Three of these have completed the work.

No legal action was necessary as a result of 97 samples of paint taken from the pots from which paint was being put on houses. All complied with the requirements. With the large number of ready-mixed, lead-free paints now on the market, this result is not surprising.

Section 128 of the Act requires that each package of paint has a statement of ingredients on the label. In order to ascertain how this was being observed, 22 samples of paint were submitted for analysis. No serious deviations were found, and manufacturers and/or distributors readily corrected any fault brought to their notice.

CAMPING AREAS AND SEASIDE RESORTS

Departmental officers have continued inspections of camping areas and sanitation at beaches particularly during the Christmas-New Year holiday period, when the crowds are greatest and the holiday spirit creates a careless attitude which can be dangerous.

Adequate and safe water supplies and sanitary conveniences are necessary to minimise the possible spread of intestinal disease.

The sanitation of these areas is the responsibility of Local Authorities. Some have provided excellent camping facilities. However there are still some who do not or will not realise the danger and who continue to overcrowd camp sites provided with inadequate sanitary conveniences which are sometimes not even in good repair.

MISCELLANEOUS

On behalf of the Licensing Commission, inspections of premises licensed under The Liquor Acts and the perusal of plans for rebuilding or altering such premises has continued.

During the year "The Trade Descriptions (Textile Products) Act of 1954" and section 126 of "The Health Acts, 1937 to 1964" were repealed. The former dealt with the labelling of textiles and the latter the branding of footwear. By the enactment of new legislation the Department of Labour and Industry now administers those laws.

HOOKWORM CONTROL CAMPAIGN

The section is centred at Cairns and the staff comprises two health inspectors, trained in microscopy, who carry out surveys and treatments in endemic areas of North Queensland.

During the year specimens were examined from the Local Authority areas of Cairns, Cardwell, Johnstone, Mulgrave, Mareeba, Douglas, Herberton, Eacham, and Atherton. Mainland settlements under the control of the Department of Native Affairs visited included Cape York Settlements (Bamaga), Gorge Mission (Mossman), Yarrabah Settlement and Lyons Street Aboriginal Hostel, Cairns. Missions under the control of religious denominations surveyed were Mornington Island, Doomadgee, Weipa, and Hammond Island. In the Torres Strait, populations on the islands of Saibai, Dauan, Yam, and Yorke, which are under the control of the Department of Native Affairs, were also examined.

The total number of persons examined was 5,047, of whom 4,545 were Aborigines and Torres Strait Islanders. Of these 239, representing 5·2 per cent., were found to have hookworm, a decrease of 5 per cent. on the previous year's figures. This may be attributed to the low incidence in the larger population groups examined, viz., Doomadgee Mission, Yarrabah and Cape York Settlements, Saibai, Dauan, Hammond and Yorke Islands. It appears that in some of these places the endemicity is waning. No positives were found at Yarrabah, Gorge Settlements, and at Dauan Island.

It will be seen from Table XXX that the incidence of hookworm in coloured people is declining.

TABLE XXX
SHOWING INCIDENCE OF HOOKWORM INFECTION FOUND IN SURVEY OVER ELEVEN YEARS (1954-55 TO 1964-65)

	Aborigines and Islanders			Europeans		
	Examined	Positive	Percentage Positive	Examined	Positive	Percentage Positive
1954-55	1,613	991	61·4	1,805	71	3·9
1955-56	2,652	1,164	43·9	2,082	37	1·8
1956-57	2,716	762	28·1	1,696	18	1·1
1957-58	5,053	1,282	25·4	1,073	28	2·6
1958-59	3,556	947	26·6	2,225	19	0·8
1959-60	3,708	1,119	30·1	1,639	52	3·2
1960-61	5,109	871	17·0	805	20	2·5
1961-62	6,039	576	9·6	308	12	3·8
1962-63	4,056	540	13·3	151	..	..
1963-64	6,123	627	10·2	176	1	0·5
1964-65	4,545	235	5·2 ..	502	28	5·5 ..
11 years	45,170	9,114	20·2 ..	12,462	286	2·3 ..

A total of 502 Europeans were examined of whom twenty-eight (5·5 per cent.) were found positive. This is an abnormal increase, caused by an isolated focus of infestation found at two boarding schools at Herberton. Of the total positives for the year, 26 were from Herberton boarding schools and of these 23 were students from the Territory of New Guinea. This appears to indicate a high incidence in children coming to Queensland from New Guinea and might possibly present a source of infestation at schools attended by these children.

Similarly, in the native populations of the Torres Strait islands of Yam and Yorke, of 20 hookworm hosts found, 17 were ex-New Guinea residents. It is felt that some form of control should be exercised over European and native persons from New Guinea to the Queensland mainland or Torres Strait islands for prolonged or permanent periods of residence.

In our experience of treating hookworm disease, remarkable success has been achieved with the use of Alcopar and tetrachlorethylene administered as a combined treatment. The problems encountered in administering Alcopar to small children have been greatly reduced by the addition of a sweetening agent. Apart from some feelings of nausea and dizziness, few side-effects of any importance have been noted and it is considered this method would be suitable for mass treatment programmes.

Table XXXI shows the comparative efficacy of the two anthelmintics used as a combined dose treatment and each used as a single dose treatment, in a trial carried out at Aurukun and Weipa Missions.

From the following table it can be seen that both the combined treatment and Alcopar proved, in this trial, to be 100 per cent. effective, while tetrachlorethylene was effective in only 34·9 per cent. of persons treated.

The activities of this section have also included inspectorial surveys of the environmental sanitation in all areas visited with subsequent reports being submitted. On the spot advice concerning hygiene and sanitation problems has also been given at various settlements and missions visited. As a

TABLE XXXI

Age Group	Treatment	Number Treated	Number Not Cured	Per Cent. Not Cured
Pre School	Combined ..	2	..	..
	Alcopar	4	..	..
	Tetrachlorethylene	26	20	76·9
School ..	Combined ..	11	..	..
	Alcopar	3	..	..
	Tetrachlorethylene	11	5	45·4
Adult ..	Combined ..	24	..	..
	Alcopar	12	..	..
	Tetrachlorethylene	29	18	62·0
Total ..	Combined ..	37	..	..
	Alcopar	19	..	..
	Tetrachlorethylene	66	43	65·1

result a gradual improvement can be seen, but there is room for improved standards in one or two cases, particularly with regard to nightsoil removal methods.

The education of the aboriginal people in health practices has been continued by personal contact, talks to school children and adult groups, screening of health films, and the use of health education literature.

Other activities of this section have included general sanitation and food hygiene supervision at Normanton and Thursday Island in collaboration with the District Inspector, State Health Office, Cairns.

Both officers also assisted at a mass treatment of the population of Palm Island Aboriginal Settlement for amoebiasis.

DIVISION OF TUBERCULOSIS

Director: E. W. ABRAHAMS, M.D. (Melb.), M.R.C.P. (Lond.)

Assistant Director: CYRIL EVANS, M.B., B.S., D.T.M., M.R.C.P. (Lond.)

Chest Physician, Toowoomba: GWYN HOWELLS, M.D., M.R.C.P. (Lond.)

Chest Physician, Cairns: R. J. B. ANDERSON, M.B., Ch.B., T.D.D. (Wales)

Chest Physician, Rockhampton: P. A. M. DALE LACE, M.B., Ch.B.

Chest Physician, Townsville: J. R. CLARKE, M.B., B.S., M.R.C.P. (Edin.)

STAFF

Dr. R. S. Nicholson resigned from the position of Chest Physician, Townsville, and Dr. John Clarke, from the staff of the Brisbane Chest Clinic, was appointed to succeed him. Dr. Michael Masel has replaced Dr. Rupert Graff on the staff of the Brisbane Chest Clinic. Dr. Cyril Evans is still on loan to World Health Organisation and working at the Tuberculosis Chemotherapy Research Centre, Madras, India. Dr. George Burgess is undertaking post-graduate study overseas while on extended leave from the Division.

BUILDINGS

When the Health and Welfare building is occupied the Division will have two clinical centres functioning. Plans have been made to retain, as far as possible, a unity of function, the two centres overlapping as little as possible. Mass radiography staff and facilities will be concentrated at the Wickham Terrace site which will be renamed the Chest X-ray Centre, and clinical investigation there will be restricted to initial interviewing of patients recalled from mass radiography surveys and any investigation resulting from this. Subsequent X-rays and follow-up will be undertaken at the new Clinic in George Street in the ground floor of the Health and Welfare Building.

GENERAL

(Tables XXXII, XXXIII, XXXIV, XXXV, XXXVI)

Eight hundred and ninety-one cases of tuberculosis were notified. As previously, the majority of the cases were males in the later decades. The total includes 33 cases of disease attributed to infection with atypical mycobacteria, to a degree warranting a diagnosis on radiological and clinical grounds of pulmonary tuberculosis and from whom atypical mycobacteria have regularly been recovered.

ATYPICAL MYCOBACTERIA

This problem was discussed in some detail in the Annual Report of 1963-64. The progressive total of persons believed to be suffering from disease caused by these organisms is now 276. During the year, a trial of treatment with a promising drug was undertaken at the Chest Hospital. This drug, a riminophenazine derivative known as B.663 (Geigy G.30320) was administered to five patients with advanced disease caused by Group III (Battey) mycobacteria. One patient died of his disease while under treatment, in one gastro-enteric symptoms required withdrawal and the remaining three cases showed no improvement. Trials in less severe cases are contemplated but it seems unlikely that this drug is the answer to clinical problems in this field. Some patients have been seen this year from whom only atypical mycobacteria have been recovered who have none the less shown improvement on standard anti-tuberculosis chemotherapy though, in the laboratory, their organisms have been resistant to these drugs. It may be that these patients were infected with both typical and atypical mycobacterial strains, or that the improvement is coincidental and due to the known tendency of most cases of tuberculosis to remit, untreated. The subsequent course of these patients will be watched with interest. The majority of cases of significant atypical mycobacterial infection remain with positive sputum and progress slowly.

TREATMENT

(Table LIII)

No major changes in treatment have occurred. Thiacezone (thiosemicarbazone), a drug practically discarded when isoniazid was introduced has, as mentioned last year, been reintroduced and is proving useful in persons who cannot tolerate the unpleasant gastro-enteric symptoms which para amino salicylic acid (P.A.S.) so frequently causes.

Streptomycin, isoniazid and P.A.S. are still the main drugs used in treatment.

A tendency towards domiciliary care is common overseas, particularly in those countries where a shortage of facilities gives no option as to its use. In general, countries where facilities are available still advocate that drug therapy should be commenced in hospital (quite apart from the public health advantages of isolating patients till non-infectious) because a majority of toxic and allergic reactions to anti-tuberculosis drugs occur in the first few weeks of treatment.

In a project for the Department of Social and Preventive Medicine of the University of Queensland two medical students have produced figures which strongly substantiate this as far as local patients are concerned. Of 545 patients surveyed who were treated in the Chermside Hospital no less than 162 (29.7 per cent.) suffered from some adverse reactions to their treatment. Table LIII shows that the great majority of these occurred within the first six weeks of therapy when reactions due to hypersensitivity were combined with direct toxic effects and also drug intolerance. In hospital these ill effects are quickly noted and appropriate alterations to treatment made. When they occur in outpatients, as occasionally occurs after discharge, this is much more difficult to control and severe ill effects may develop in consequence.

Two cases of impaired hearing, possibly attributed to streptomycin, have come under notice. In these cases hearing loss came on a considerable time after the drug was withdrawn, its administration having been without incident. It is proposed to acquire an audiometer so that a check can be made on patients' hearing while taking this drug.

LUNG CANCER

(Table XXXVII)

Figures for the incidence of this condition are only very partially provided by the Chest Clinic where the number of cases seen was one more than last year. The results of treatment in this condition both by surgery and by X-ray are disappointing. This is the first major cancer of an internal organ for which an etiological factor, namely cigarette smoking, is known, particularly when coupled with city dwelling. It is ironical that despite the widespread publicity that this has received there are few indications that our population is smoking less, while urbanisation continues apace. This is a classic example of the demand of the man in the street that he should be cured of his ills and not, by his own prudence, avoid them.

COUNTRY CLINICS

As in previous years, medical officers have visited country hospitals to conduct follow-up and diagnostic clinics. Though occupying much of the medical officer's time and involving many miles of travel, they provide a useful service to the patients and also provide consultant facilities for the doctors in the country hospitals and districts. In all, 6,321 persons were interviewed at these clinics during the year.

MASS RADIOGRAPHY SURVEYS

(Tables XXXVIII, XXXIX, XL, XLI)

Equipment for a remote areas micro mass radiography unit has been acquired during this year. This consists of a battery-operated X-ray generator, drawing its electric power from two lead accumulators similar to those used in an ordinary motor car, combined with a mirror Odelca camera

similar to those used in the usual caravan operated X-ray units. Due to delays in delivery this survey, planned to commence in the Torres Straits islands in June, will not commence until July, 1965. Films will be returned to Brisbane for processing and reading and abnormal films returned to the nearest convenient centre—in this case Thursday Island—for further investigation and treatment of abnormalities found. When this area is surveyed the equipment will be mounted in a four-wheel-drive vehicle, and those areas of north and west Queensland not accessible to our ordinary caravan units will be visited.

The first compulsory X-ray survey of the Brisbane area, commenced in December, 1962, is nearing completion. During 1964 the electoral districts of Windsor, Kedron, Mt. Coot-tha, Ashgrove, Barooka, Ithaca, Toowong, portion of Brisbane, Wynnum, Belmont, Mt. Gravatt, and the Redlands Shire were surveyed. (See Table XXXIX.)

The country units are now more than half-way through their second round and during 1964 the districts of Cook, Cairns, Hinchinbrook, Bowen, Burdekin, Whitsunday, Townsville North, Townsville South, Bourke, Gregory, Flinders, Mirani and Mackay were surveyed. (See Table XXXIX.)

In the Cairns district one active case of tuberculosis was found per 1,000 films in the survey conducted during this year which compares most favourably with the 1959-60 survey when the corresponding figure was 4.8 per 1,000.

In Townsville, however, the drop has been from 2.4 to 2.0 per 1,000 films.

In the Rockhampton district the figure is so far extremely low being 0.2 per 1,000 films. This, however, represents only the initial portion of the whole Rockhampton district and subsequent figures will probably raise this somewhat. They are as yet unavailable. It is to be hoped that this downward trend will continue as the figures for the rural districts of the Rockhampton district come to hand. The figure from the Brisbane survey (0.8 per 1,000) is lower than that for last year (1.2). This difference is presumably due to the large number of young people included as many outer suburbs were surveyed this year whereas last year the survey included long established inner suburbs with a higher percentage of old people. The first round of the Brisbane suburbs will be completed in December, 1965 and then overall figures for the State as a whole will be available.

SERVICE CO-OPERATION

The re-introduction of National Service training with a consequent need to X-ray the young men called up under this scheme makes the services provided by the Tuberculosis Division to the Armed Services worthy of mention. For some years this has included:—

- (a) Mantoux testing of servicemen, their wives and families, and B.C.G. vaccination where indicated, before proceeding overseas.
- (b) Annual X-ray of servicemen stationed in and around Brisbane.
- (c) Reading and, at times, taking of routine pre-enlistment X-rays.

To these must now be added the interpretation of X-rays taken at country centres and at various hospitals throughout the State of those called up for National Service training.

The fact that two medical officers of the Division are also members of the Citizens' Military Forces makes for efficient liaison in these matters.

DOMICILIARY VISITING

The supervision of discharged patients, who are still taking anti-tuberculosis drugs, is a most important and exacting part of the work done by the tuberculosis visiting sisters stationed at the Brisbane Chest Clinic and the country thoracic annexes.

The regular taking of drugs is not the entire treatment of tuberculosis; irregular drug taking is the most common cause of relapse in otherwise adequately treated cases. As hospital stay shortens the supervision of treatment by both clinic doctor and visiting nurse becomes increasingly important. Visiting nurses have also played some part in visiting of apparent compulsory mass X-ray defaulters and have been successful in overcoming the fears of X-ray in a small number of folk who otherwise might have warranted prosecution.

TUBERCULIN TESTING

Tables XLII, XLIII, XLIV, L, LI, LII

Routine tuberculin testing, chiefly with a view to B.C.G. vaccination, has been energetically proceeded with during 1964. The high rate of positively reacting children, believed due to atypical infection and commented on in previous

years, has been maintained. Heaf testing using P.P.D. tuberculin instead of Old Tuberculin has reduced the number of children requiring X-ray examination.

Table LII gives the results of tuberculin testing of patients being investigated in the Brisbane Chest Clinic since May, 1962. Each person was tested with two preparations—Old Tuberculin 5 T.U. (O.T.) by Mantoux method on one arm and Purified Protein Derivative (P.P.D.) by Heaf's method on the other. This provides a low dose relatively crude preparation (the Old Tuberculin) and a higher dose purified tuberculin. Results are set out in the form of a two-way table. It will be seen that more and bigger reactions occurred to the O.T. than to the P.P.D. as a rule, suggesting that non-specific reactions may play more part in the tuberculin response than specific reactions. A further series of double tests was done on school children using tuberculin supplied by courtesy of the Medical Research Council of Great Britain and the Ministry of Fisheries and Food, Central Veterinary Laboratory, Weybridge. These two tests are set out in Tables L and LI. This followed work done in Great Britain by Pollock, Sutherland and D'Arcy Hart in 1959 in Royal Air Force recruits when it was shown that, using a dilute solution of human and avian tuberculin, a majority of persons reacted more strongly to human than to avian tuberculin. This suggested that these individuals were sensitised by mammalian type tubercle bacilli. When non-reactors to this test were re-tested with a more concentrated pair of tests, the situation was altered and more reacted to avian than to human. This suggested that these individuals had acquired hypersensitivity not from human mycobacteria but from mycobacteria more resembling the avian type. In Brisbane school children, however, the situation is very different as, to both strengths of tuberculin, the majority of reactions are found towards the avian side—further evidence of the existence of hypersensitivity from atypical mycobacterial infection. A further most remarkable finding is that almost 80 per cent. of children react to some degree to a strong dose of tuberculin. Though even with concentrated testing solutions most of the reactions are small, the implication must be that, by puberty, most Brisbane and probably most Queensland children have had some experience of sub-clinical mycobacterial infection. This phenomenon almost certainly carries with it a degree of acquired resistance to subsequent infection with virulent bacilli and this, as suggested last year, may account for many of the observed characteristics of the local tuberculosis picture. Obviously much research is still necessary and it is to be hoped that further light can be thrown on some of these interesting and important problems.

STATISTICAL

Tables XLV, XLVI, XLVII

Revision of the case register is now complete and 5,570 cases listed represent active cases—that is patients within three years' cessation of drug treatment. The increase since last year is greater than the notifications for this year as review of the old register has added cases previously notified.

The prevalence rate for this year (Table XLVII) would represent the most accurate figure which we have so far been able to obtain as it is calculated on the revised case register total.

DEATHS

Table XLVIII

The number of deaths for the year 1964 was 75 and is the lowest except in 1961 when there were 72. These deaths represent, generally speaking, those patients who come under treatment too late for drug treatment to be effective, who suffer from atypical infection or who are in bad health from associated disease which contributes substantially to their deaths.

TUBERCULOSIS ALLOWANCES

Table XLIX

The number of patients being paid the tuberculosis allowance increased slightly since last year, the new number being 350 as opposed to 301. There has, however, been relatively little change in the number receiving payment for three years or more, thus reflecting the success of modern drug treatment as the most satisfactory index of the changed nature of tuberculosis as compared with the long-drawn-out and relapsing disease of prechemotherapy treatment. The legislation affecting the status of aborigines passed during this year will make an increased number of aborigines eligible for the tuberculosis allowance and so eliminate one of the minor causes of friction to which this allowance has been subjected.

ACKNOWLEDGMENT

Table LIII is derived from a research project by Messrs. Gardner and Carseldine for Professor Gordon. Their permission to reproduce this data is gratefully acknowledged.

TABLE XXXII
SOURCE OF NOTIFICATIONS OF TUBERCULOSIS FOR YEAR ENDED 30TH JUNE, 1965

Source	Pulmonary Cases		Non Pulmonary Cases		Total Cases
	Number	Percentage	Number	Percentage	
Mass Community Surveys ..	325	37.4	..	..	325
Private Medical Practitioners—					
(a) Direct ..	22	2.5	..	..	22
(b) Via Chest Clinic ..	17	2.0	..	24.0	23
General Hospitals ..	91	10.5	11	44.0	102
Chest Hospitals, Annexes and Sanatoria ..	253	29.1	5	20.0	258
Chest Clinics ..	95	11.0	1	4.0	96
Repatriation Clinics and Hospitals ..	28	3.2	1	4.0	29
Death Certificates ..	11	1.3	1	4.0	12
Special Groups—					
(a) Mental Hospital Surveys ..	24	2.8	..	..	24
(b) Gaol Surveys ..	2	0.2	..	..	2
(c) Ante-Natal Hospitals ..	..	..	..	..	..
(d) Other ..	..	..	..	..	..
TOTALS ..	868	100.0	25	100.0	893*

* Includes 2 cases of Pulmonary and Non Pulmonary Tuberculosis.

TABLE XXXIII
NOTIFICATIONS OF TUBERCULOSIS FOR YEAR ENDED 30TH JUNE, 1965
NEW ACTIVE AND PROBABLY ACTIVE CASES
SHOWING AGE, SEX AND STAGE OF DISEASE

Age Group	Males					Females					Persons				
	Primary †	Pleurisy with Effusion †	Pulmonary			Non- Pul- monary	Primary †	Pleurisy with Effusion †	Pulmonary			Non- Pul- monary	Primary †	Pleurisy with Effusion †	Percentage of Each Age Group
			Minimal	Mod- erately Advanced	Advanced				Minimal	Mod- erately Advanced	Advanced				
0-4 ..	3	..	2 (1)	..	..	1	2	..	..	..	..	2	5	..	1.1
5-9	1	..	..	..	..	..	..	..	..	1	..	..	0.2
10-14	1	..	..	..	1	..	..	..	..	..	1	..	0.4
15-19	1	5	1	..	..	..	..	11 (1)	..	..	..	..	..	2.0
20-24	6	1	..	..	..	..	11	2	1	..	..	..	1.7
25-29	12	4	..	..	..	..	22	8	2	..	..	..	4.1
30-34	1	13	12	..	2	..	..	23	16	2	2	..	..	5.0
35-39	19	16	3	1	..	..	35 (1)	13	..	1	..	..	6.2
40-44	33 (3)	17	4	2 (1)	..	..	47 (3)	23 (1)	5	3 (1)	..	..	9.3
45-49	44 (1)	15	2	2	..	..	60 (3)	19	4	3	..	..	10.3
50-54	47 (2)	28	2	2	..	..	64 (2)	32	2	2	..	..	12.0
55-59	45 (3)	18 (1)	2	1	..	..	51 (4)	27 (2)	3	2	..	..	10.0
60-64	38 (2)	41 (1)	5	3	..	..	47 (3)	47 (1)	6	4	..	..	12.4
65-69	21 (1)	17	4	1	..	..	31 (1)	23 (1)	4	1	..	..	6.9
70-74	1	32 (3)	23 (1)	2	..	..	..	41 (3)	29 (1)	2	..	..	..	8.9
75 and over	27 (1)	26	4	..	..	..	41 (1)	30	5	..	..	..	9.1
Not stated	2	1	..	..	..	..	2	1	..	..	..	..	0.4
Totals ...	3	3	348 (18)	210 (3)	30	17 (1)	3	..	491 (23)	272 (5)	38	25 (1)	6	3	100.0

* Total includes 2 cases of Pulmonary and Non-pulmonary tuberculosis.

† Patients receiving treatment in other States, transferred to Queensland (29), not included.

Atypical cases in brackets.

TABLE XXXIV
RE-ACTIVATED CASES OF TUBERCULOSIS FOR YEAR ENDED 30TH JUNE, 1965
SHOWING AGE, SEX AND STAGE OF DISEASE

Age Group	Males				Females				Persons				
	Min.	Mod. Adv.	Adv.	Non-Pul-monary	Min.	Mod. Adv.	Adv.	Non-Pul-monary	Min.	Mod. Adv.	Adv.	Non-Pul-monary	Total Persons
0-4 .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
5-9	1 (1)	..	..	..	..	..	..	..	1 (1)	..	..	..	1 (1)
10-14 .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
15-19 .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
20-24 .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
25-29 .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
30-34	1	..	..	..	..	..	..	..	1	..	..	..	1
35-39	1 (1)	1	..	..	1	..	..	..	2 (1)	1	..	..	3 (1)
40-44 .. ..	..	..	..	..	..	1	..	..	..	1	..	..	1
45-49 .. ..	..	..	..	..	1	..	..	..	1	..	..	..	1
50-54	1	2	..	..	..	..	..	..	1	2	..	..	3
55-59	1	1	..	..	..	..	..	..	1	1	..	..	2
60-64	3	2 (1)	2	..	..	..	..	..	3	2 (1)	2	..	7 (1)
65-69 .. ..	..	1	..	..	..	..	..	..	..	1	..	..	1
70-74 .. ..	..	..	..	..	..	..	..	..	..	..	..	..	..
75 and over ..	5 (1)	2	..	..	1	1	..	..	6 (1)	3	..	..	9 (1)
Not Stated ..	..	..	..	..	..	..	..	..	..	..	..	..	..
Totals ..	13 (3)	9 (1)	2	..	3	2	..	..	16 (3)	11 (1)	2	..	29 (4)

Atypical cases in brackets.

TABLE XXXV
NOTIFICATIONS DURING YEAR ENDED JUNE 30, 1965, SHOWING
BACILLARY STATUS OF PATIENTS AT TIME OF NOTIFICATION

Age	Number of Patients Receiving Initial Treatment		Number of Retreatment Cases	
	Bacillary Positive	Bacillary Negative	Bacillary Positive	Bacillary Negative
0- 4 ..	2	7	..	..
5- 9 ..	..	2	1	..
10-14 ..	..	3	..	..
15-19 ..	7	10	..	..
20-24 ..	1	13	..	..
25-29 ..	17	17	..	..
30-34 ..	16	26	1	..
35-39 ..	27	25	..	3
40-44 ..	48	30	1	..
45-49 ..	51	35	..	1
50-54 ..	55	45	2	1
55-59 ..	46	37	1	1
60-64 ..	50	54	3	4
65-69 ..	31	27	1	..
70-74 ..	39	35	..	..
75- ..	32	44	6	3
Not Stated ..	2	1	..	..
Totals ..	424	411	16	13

Includes 2 cases of pulmonary and non-pulmonary tuberculosis. Patients receiving treatment in other States, transferred to Queensland (29) not included.

TABLE XXXVI
TUBERCULOSIS NOTIFICATIONS OF MIGRANTS—YEAR ENDED
30TH JUNE, 1965

Arrival in Australia	British		Non British	
	Total	Percentage of Total Notified Migrants	Total	Percentage of Total Notified Migrants
Within 1 year ..	5	3·1	5	3·1
Within 5 years ..	8	4·9	9	5·6
Within 10 years ..	8	4·9	13	8·0
10 years and over	57	35·2	57	35·2
Totals ..	78	48·1	84	51·9

Migrants (162) were 18·2 per cent. of all notified tuberculosis cases (891).

TABLE XXXVII
NUMBER OF NEW CASES OF CARCINOMA OF THE LUNG SEEN
AT THE CHEST CLINIC, BRISBANE

1st July, 1958 to 30th June, 1959	56
1st July, 1959 to 30th June, 1960	65
1st July, 1960 to 30th June, 1961	83
1st July, 1961 to 30th June, 1962	111
1st July, 1962 to 30th June, 1963	109
1st July, 1963 to 30th June, 1964	100
1st July, 1964 to 30th June, 1965	101

TABLE XXXVIII
NUMBER OF X-RAY EXAMINATIONS CARRIED OUT—1ST JANUARY, 1964 TO 31ST DECEMBER, 1964

—	Chest Clinic	Mobile Unit	North Brisbane Hospital	Princess Alexandra Hospital	Rockhampton	Toowoomba	Cairns	Townsville	Thursday Island	Total
Micro films ..	41,534	312,031	9,149	21,343	3,102	4,453	4,928	4,174	..	400,714
Micro Re-Rays ..	16,458	3,556	535	172	269	82	..	169	..	21,241
Other large films	11,586	197	..	..	3,567	5,465	2,745	..	149	23,709
Totals ..	69,578	315,784	9,684	21,515	6,938	10,000	7,673	4,343	149	445,664

TABLE XXXIX

COMPULSORY MASS CHEST X-RAY SURVEY OF PERSONS OVER 14 YEARS OF AGE FROM 1ST JANUARY, 1964 TO 31ST DECEMBER, 1964

Locality	Estimated Number of Persons over 14 years of Age	Number of Micro Films Taken	Number of Active Cases Found	Number of Cases per 1,000 Micro Films Taken	Inactive Cases	Non-specific Fibrosis	Intercurrent or Pneumonic	Cardiac Abnormality	Carcinoma	Other Tumours	Pneumoconiosis	Bronchiectasis	Sarcoidosis	Other Disease	No Significant Abnormality After Investigation	Under Investigation	Old Cases Rediscovered
Cairns Division	20,328	20,486	21	1.0	267	22	15	16	9	4	..	3	..	5	50	261	6
Townsville Division	98,975	88,473	173	2.0	1,375	238	119	229	18	5	54	123	1	183	506	75	..
Rockhampton Division	25,486	29,885	7	0.2	192	175	17	73	6	1	3	23	2	43	237	3	..
Brisbane Division	184,651	165,229	134	0.8	1,467	818	100	329	34	39	16	119	15	347	3,821	221	192
Special Surveys	7,958	7,958	10	1.3	60	20	4	20	3	1	..	6	1	18	269	41	49
Totals	337,398	312,031	345	1.1	3,361	1,273	255	667	70	50	73	274	19	596	4,883	601	247

TABLE XL

MASS X-RAY SURVEY—QUEENSLAND—FOR YEAR ENDED 31ST DECEMBER, 1964

Age	Number X-Rayed	Active		Inactive		Suspected Active at 31-12-64		Other Conditions	
		Number	Per 1,000 Examined	Number	Per 1,000 Examined	Number	Per 1,000 Examined	Number	Per 1,000 Examined
0-14	8,996	1	0.1	12	1.3	3	0.3	13	1.4
15-19	42,070	6	0.1	34	0.8	18	0.4	100	2.4
20-24	31,342	7	0.2	44	1.4	24	0.8	92	2.9
25-29	27,368	9	0.3	82	3.0	39	1.4	76	2.8
30-34	27,140	18	0.7	149	5.5	28	1.0	91	3.3
35-39	29,176	29	1.0	253	8.7	45	1.5	160	5.5
40-44	28,450	32	1.1	330	11.6	43	1.5	210	7.4
45-49	24,927	40	1.6	311	12.5	45	1.8	279	11.2
50-54	22,920	44	1.9	400	17.5	52	2.3	321	14.0
55-59	18,442	38	2.1	422	22.9	54	2.9	370	20.1
60-64	15,751	39	2.5	368	23.4	60	3.8	406	25.8
65-69	12,173	22	1.8	364	30.0	45	3.7	405	33.3
70-74	9,610	30	3.1	253	26.3	50	5.2	315	32.8
75 and over	10,500	28	2.7	320	30.5	88	8.4	420	40.0
Not Stated	3,166	2	0.6	19	6.0	7	2.2	19	6.0
TOTALS	312,031	345	1.1	3,361	10.8	601	1.9	3,277	10.5

TABLE XLI

COMPULSORY MASS CHEST X-RAY SURVEY—FOR YEAR ENDED
TO 31ST DECEMBER, 1964

Attended Survey within the Specified Period	Number of Persons X-rayed	Number of Cases of Active Tuber- culosis Dis- covered	Rate of Active Tuberculosis per 1,000 Micro Films Taken	Number of Cases of Carcinoma Discovered
Metropolitan	173,187	144	0.8	37
Country ..	138,844	201	1.4	33
Totals ..	312,031	345	1.1	70
Attended later following electoral roll check	Number of Persons X-rayed	Number of Cases of Active Tuber- culosis Dis- covered	Rate of Active Tuberculosis per 1,000 Micro Films Taken	Number of Cases of Carcinoma Discovered
Metropolitan	4,452	7	1.6	1
Country ..	2,150	12	5.6	..
Totals ..	8,602	19	2.2	1

TABLE XLII
TUBERCULIN TESTS AND B.C.G. VACCINATIONS FOR YEAR ENDED 30TH JUNE, 1965

Locality	Number Tested	Did Not Return		Positive		Positive After Previous B.C.G.		Negative		B.C.G. Given		B.C.G. Not Given		B.C.G. Refused	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Metropolitan	9,538	340	3·6	2,590	27·2	2,923	30·6	3,685	38·6	2,032	55·1	1,538	41·8	115	3·1
Metropolitan and Brisbane Division Schools	16,099	506	3·1	3,621	22·5	1,186	7·4	10,786	67·0	10,269	95·2	268	2·5	249	2·3
Country	9,826	407	4·1	4,385	44·6	2,171	22·1	2,863	29·2	1,946*	68·0	1,076	37·6	16	0·6
Country Schools	13,798	323	2·3	4,043	29·3	3,752	27·2	5,680	41·2	5,528	97·3	109	1·9	43	0·8
Totals	49,261	1,576	3·2	14,639	29·7	10,032	20·4	23,014	46·7	19,775	85·9	2,991	13·0	423	1·8

* B.C.G. given to some infants without prior testing.

TABLE XLIII
TUBERCULIN TESTS AND B.C.G. VACCINATIONS OF MIGRANTS FOR YEAR ENDED 30TH JUNE, 1965

Locality	Number Tuested	Did Not Return		Positive		Positive After Previous B.C.G.		Negative		B.C.G. Given		B.C.G. Not Given		B.C.G. Refused	
		No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Metropolitan	983	40	4·1	553	56·3	119	12·0	271	27·6	141	52·0	127	46·9	3	1·1
Metropolitan and Brisbane Division Schools	929	23	2·5	183	19·7	105	11·3	618	66·5	592	95·8	14	2·3	12	1·9
Country	303	19	6·3	237	78·2	9	3·0	38	12·5	1	2·6	37	97·4	..	..
Country Schools	352	11	3·1	121	34·4	119	33·8	101	28·7	101	100·0	..	..	..	..
Totals	2,567	93	3·6	1,094	42·6	352	13·7	1,028	40·1	835	81·2	178	17·3	15	1·5

TABLE XLIV
COMPLICATIONS FOLLOWING VACCINATIONS IN 7,826 PERSONS TESTED—YEAR ENDED 30TH JUNE, 1965

Age Group	Number Given B.C.G.	Local Ulcer		Enlarged Glands		Incised Glands		Total Complications	
		No.	Per cent.	No.	Per cent.	No.	Per cent.	No.	Per cent.
0- 2 years	999	27	2·7	4	0·4	1	0·1	32	3·2
3-14 years	4,761	27	0·6	..	..	..	..	27	0·6
Over 14 years	2,066	26	1·3	..	..	..	..	26	1·3
Totals	7,826	80	1·0	4	0·05	1	0·01	85	1·1

TABLE XLV
CASE REGISTER AS AT 30TH JUNE, 1965

Activity	Minimal	Number on Register According to Extent of Lesions			Total
		Moderately Advanced	Far Advanced	Not Stated	
Active ..	431	250	37	..	718
Quiescent ..	944	825	174	63	2,006
Inactive ..	1,251	883	221	283	2,638
Totals ..	2,626	1,958	432	346	5,362
Non Pulmonary Tuberculosis ..					183
Pleural Effusion ..					25
Total					5,570

TABLE XLVI
MIGRANTS ON CASE REGISTER AS AT 30TH JUNE, 1965

Activity	Minimal	Number on Register According to Extent of Lesions			Total
		Moderately Advanced	Far Advanced	Not Stated	
Active ..	82	35	8	..	125
Quiescent ..	181	152	32	13	378
Inactive ..	210	152	46	36	444
Totals ..	473	339	86	49	947
Non Pulmonary Tuberculosis ..					45
Pleural Effusion ..					12
Total					1,004

TABLE XLVII
NUMBER OF PATIENTS ON REGISTER AND PREVALENCE RATE
(PER 100,000 MEAN POPULATION), QUEENSLAND

Year Ending	Cases on Register	Prevalence Rate
30th June, 1952	1,942	154
30th June, 1953	2,569	198
30th June, 1954	3,201	243
30th June, 1955	3,746	279
30th June, 1956	4,263	311
30th June, 1957	4,731	343
30th June, 1958	5,371	378
30th June, 1959	5,983	398
30th June, 1960	6,702	462
30th June, 1961	7,363	505
30th June, 1962	8,048	531
30th June, 1963	7,131	463
30th June, 1964	3,346	214
30th June, 1965	5,570	351

TABLE XLVIII
NUMBER OF DEATHS FROM TUBERCULOSIS AND
DEATH RATE (PER 100,000 MEAN POPULATION)

Year	Deaths	Death Rate
1950	236	19.8
1951	226	18.4
1952	216	17.2
1953	162	12.6
1954	140	10.6
1955	137	10.2
1956	81	5.7
1957	92	6.6
1958	83	5.9
1959	78	5.4
1960	83	5.7
1961	72	4.7
1962	84	5.5
1963	80	5.1
1964	75	4.7

TABLE XLIX
NUMBER OF TUBERCULOSIS ALLOWANCES BEING PAID IN
QUEENSLAND AT 30TH JUNE, 1965

—	Male	Female	Total
Number accommodated in Tuberculosis Institutions ..	139	21	160
Number not so accommodated	129	61	190
Totals	268	82	350

Period in Receipt of Allowance	Male	Female	Total
Under 1 year	208	63	271
1-2 years	32	13	45
2-3 years	17	5	22
3 years and over ..	11	1	12
Totals	268	82	350

TABLE L
SCHOOL CHILDREN 13 AND 14 YEARS—NO PREVIOUS B.C.G.
TUBERCULIN REACTIONS TO DILUTE AVIAN AND HUMAN
TUBERCULIN
Avian P.P.D. Dilute 4.T.U.

Human P.P.D. Dilute 5 T.U.		0 to 4 mm.	5 to 9	10 to 14	15 to 19	20 to 24	25
	0 mm. to 4	629	197	94	15	1	..
	5 to 9	1	7	24	10	1	..
	10 to 14	2	1	9	6	1	..
	15 to 19	..	1	8	3	..	..
	20 to 24	..	..	2	..	..	..
	25	..	..	..	..	..	..

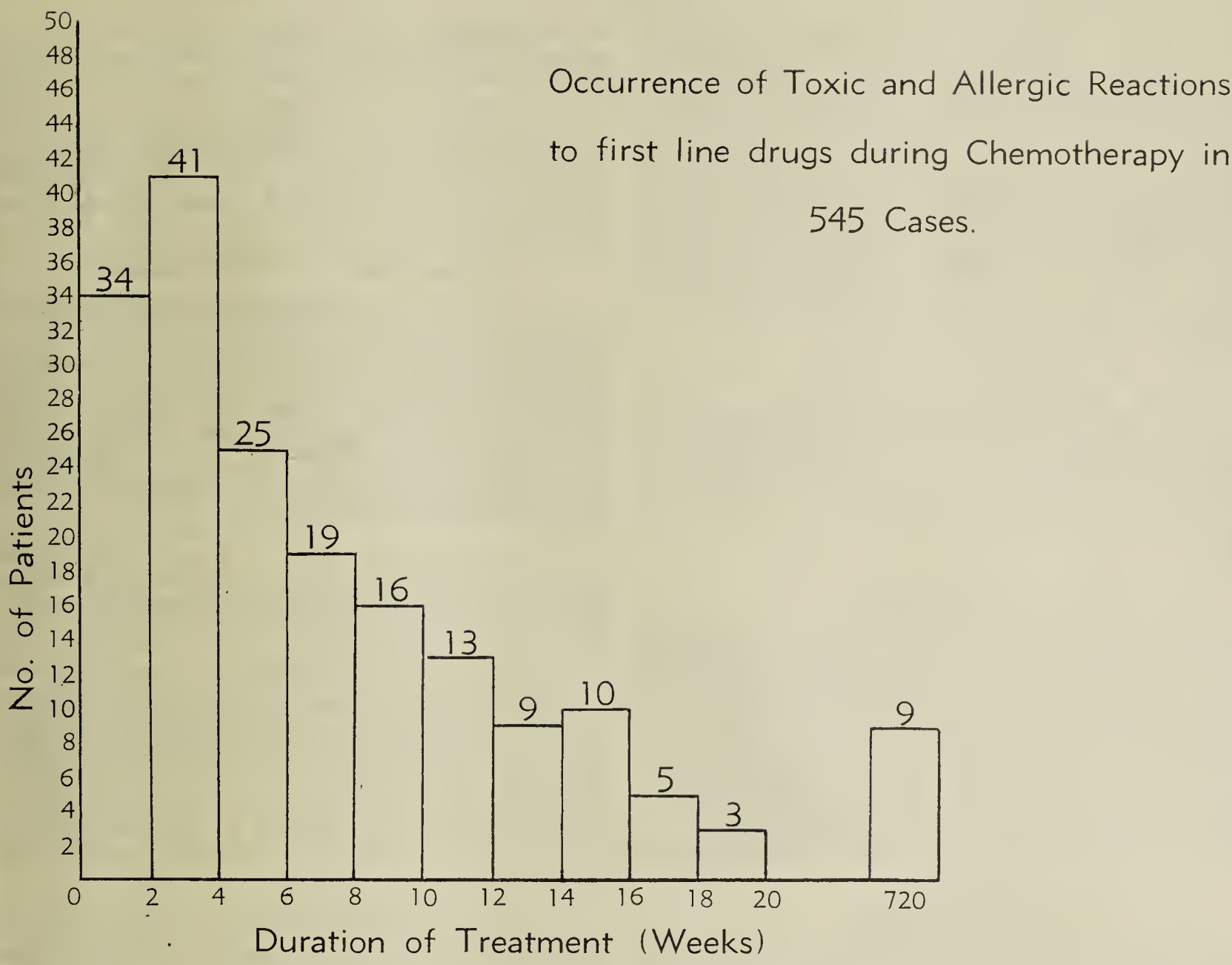
TABLE LI
TUBERCULIN REACTIONS TO CONCENTRATED AVIAN AND HUMAN
TUBERCULIN
ALL CHILDREN WITH REACTION OF 4MM. OR LESS ON BOTH ARMS
TO DILUTE TUBERCULIN
Avian P.P.D. Concentrated 80 T.U.

Human P.P.D. Concentrated 100 T.U.		0 to 4 mm.	5 to 9	10 to 14	15 to 19	20 to 24	25
	0 mm. to 4	229	135	141	51	4	..
	5 to 9	3	17	49	14	2	..
	10 to 14	..	3	11	10	1	..
	15 to 19	..	1	1	2	1	..
	20 to 24	..	..	..	..	2	..
	25	..	..	..	..	..	..

TABLE LII
TUBERCULIN TESTS AND B.C.G. VACCINATIONS
CLINIC INVESTIGATION CASES. HEAF O.T. 1 : 2000
AND HEAF P.P.D.
MAY 1962—MARCH 1965

Heaf O.T. 1 : 2000	Grade 0	Grade I	Grade II	Grade III	Grade IV	Total
0 mm. to 4 mm.	2,099	295	112	31	7	2,544
5 to 9	107	249	173	90	13	632
10 to 14	78	189	339	325	52	983
15 to 19	19	47	170	311	110	657
20 to 24	10	23	95	197	137	462
25 and over	3	8	46	125	183	365
Totals	2,316	811	935	1,079	502	5,643

Table LIII



DIVISION OF INDUSTRIAL MEDICINE

Director of Industrial Medicine: E. M. RATHUS, M.B., Ch.B. (Cape Town)

Radiation Health Physicist: K. A. STEVENS, B.Sc. (Q'ld)

Inspector in Charge—Weil's Disease Control: D. KENNEDY, M.R. San. I.

Industrial Health Inspector: J. W. MULCAHY, A.R. San. I.

This Division continues its overall interest in occupational health hazards. Diversified investigations into physical and chemical hazards and documentation of the results obtained for interested parties continues at previous level. Expanded activity has been evident in the spheres of noise problems in industry and in routine inspections. Close liaison continues with the inspectorial and administrative arms of the Department of Labour and Industry. A natural dependence on scientific appraisals of problems is exemplified by recourse to the Government Chemical Laboratory for routine analyses and compilation of relevant data in work situations. Where applicable, biochemical and haematological studies are undertaken by referral to the Laboratory of Microbiology and Pathology, while X-ray surveys, where indicated, are accomplished through the Chest Clinic.

ROUTINE EXAMINATIONS

During the year 81 investigations were undertaken of various occupational health problems and 42 men were examined in connection with these investigations and for other relevant reasons connected with their work. The Industrial Health Inspector made 219 visits to industry and in addition organised several important surveys reported below.

LEAD INDUSTRY

182 visits to various lead industries were made. About 700 blood slides were examined for stippled cells, coproporphyrin and haemoglobin estimations being done in all cases where more detailed assessments were indicated. Continued encouragement, modern engineering techniques and personal protection are necessary in this industry and routine supervision does enable the Division to detect the odd man out who may be approaching symptomatic lead absorption. One proven case occurred in a lead smelter—minor symptoms only were apparent but versenate therapy resulted in the excretion in the urine of up to 5 milligrams of lead in one day, thus establishing a diagnosis of excessive lead absorption.

DUSTY TRADES

Two major surveys were undertaken of which one was directed towards talcosis in the rubber industry and another towards silicosis in men using sandblasting techniques in heavy engineering and pattern cutting on glass. In the talcosis survey 100 workmen were subjected to chest X-rays and two definite cases of pulmonary talcosis were discovered. Several men had minimal changes probably attributable to their exposure. The firm is considering methods of suppressing the inhalation of talc dust in this industry. The pattern was not unexpected as it has been reported in the literature from overseas.

In the survey of sandblasters one man, who had had 14 years on the sandblasting of patterns on glass, was found to have Category 2 silicosis. He worked in a small enclosed room with proper facilities and he had used an air-supply helmet. Obviously some error in technique or incomplete protection had occurred. Interestingly enough his mate with the same period of exposure did not show any evidence of abnormality on the X-ray but he stated that he had always used a half-face dust respirator under the air-supply helmet. One other man showed early silicosis who had had eight years' exposure operating a blast cabinet in the metal industry. This cabinet was of poor design and exposure to dust clouds was inevitable. An attempt has been made to encourage the industry to use substitutes which are non-siliceous in nature and are effective abrasives wherever possible. It should be pointed out that regulations under the Factories and Shops Act preclude the use of sand or any material containing more than 5 per cent free silica in any foundry operation, though this prohibition does not intentionally extend to the use of sand in processes outside of foundries.

A relatively important hazard has been uncovered in pier-hole sinking for large buildings. Three men occupied in this work for between five to eight years developed up to Category 3 silicosis. One of these men in fact eventually died with a picture complicated by silicosis, emphysema and pulmonary hypertension. When pier-holes are sunk in sandstone the men may be within a shaft six feet in diameter down to 40 or more feet. Obviously a great deal of thought must be given to drilling methods and protection of the workmen as there is no doubt of the hazard involved in this work. It is at least as serious as tunnelling or mining

where ventilation is more readily approached by standard methods. A quarry worker now aged 64 years has shown steady progression in his silicosis over the years. Again his exposure stems from dry drilling for a period of 12 years from about 1940. Even work in the open air may produce silicosis in time and it is difficult to enforce personal protection in such circumstances. The engineering problems associated with dust suppression are indeed immense and one doubts if there will ever be a complete answer to these problems.

ENVIRONMENTAL INVESTIGATIONS

A very interesting experiment was undertaken with a group of men whose work exposed them to emergency work under very trying circumstances. These were members of the Metropolitan Fire Brigade whose practice sessions with self-contained proto apparatus are carried out in smoke tunnels. Environmental stresses were found to be quite considerable under certain circumstances, and an acceptable stress formula was derived out of the data collated during the experiment. Several other environmental stress situations of a relatively moderate type were looked into and advice given to the firms concerned.

Undue exposure to benzol in solvent formulation was assessed and a complete environmental study of lead in air was done at a lead smelter, with a follow-up after modifications had been introduced.

NOISE

Noise surveys have been completed in three engineering industries and three others are being programmed at present. The pattern adopted is a detailed investigation of the decibel readings of noisy processes followed up by audiometric tests carried out on volunteers in the works by the Industrial Health Inspector. The audiometric tests are done after 16 hours' absence from work and are completed before the morning shift so as not to inconvenience either industry or the men concerned.

A great deal of information has been derived and it is hoped that this will assist in propagating hearing protection in inherently noisy processes or variations in technique where this could be accomplished without loss of efficiency. It may be stated that the expected pattern of the popularly known "industrial deafness" has emerged in Queensland and the co-operation of both employers and employees is hoped for in the planned work in this direction.

BOARDS, &c.

Official attendance was required at meetings of the Occupational Health Committee of the National Health and Medical Research Council, the Radiation Technical Committee of the National Health and Medical Research Council, the Health, Welfare and Safety Board of the Department of Labour and Industry, the Chest Board of the State Government Insurance Office and the Radiological Advisory Council of the Department of Health.

PUBLICATIONS, &c.

"Organic Phosphorous Poisoning and Therapy" by Ruth Molphy and E. M. Rathus appeared in the Medical Journal of Australia during 1964. Reference M.J.A. 1964, 2:337.

An address on "Industrial Noise" was given by Dr. E. M. Rathus to the 1965 Queensland Occupational Safety Convention as part of a symposium on this subject.

RADIATION HEALTH PHYSICS SECTION

This section has continued to deal with the technical problems associated with the administration of "*The Radioactive Substances Act of 1958*", and to be available for consultation on problems in the safe use of ionising radiation.

The work of this section has included the following:—

(a) Protection Film Service

This is a monitoring service to assess the exposure to radiation of the occupationally exposed worker. It covers 810 people in 160 centres throughout Queensland, New Guinea and Papua. As in previous years the analysis of the yearly accumulated dose as recorded by the films show that

98 per cent. of workers in this field receive less than 20 per cent. of the maximum permissible dose. Those that approach the maximum permissible dose are confined to workers who are engaged in the handling of relatively large quantities of radioactive material.

(b) Medical and Dental use of Ionising Radiation

In addition to routine surveys of departments, considerable time has been spent in assessing the siting of departments using ionising radiation as well as the protective barriers to be incorporated in such departments.

During the year the Radiation Health Physicist attended the Matrons Conference and discussed with the interested matrons the problems of country hospital radiography.

(c) Industrial Use of Ionising Radiation

The Protection Film Service indicates that this use is the one that subjects the users to the highest radiation exposure.

During the year, equipment has been tested and working practices devised in an effort to ensure that the users receive the minimum practical exposure for the work being carried out.

(d) Research Use of Ionising Radiation

This work is primarily confined to the use of radioactive substances. However, in all cases the quantities of material used are small and activity has been confined primarily to ensure correct disposal of radioactive waste. Several X-ray spectrographs have been inspected and extra safety switches have been recommended to prevent accidental exposure to high intensity X-ray beams. With the co-operation of the Queensland Radium Institute, radiography of wheat grains in the study of weevil infestation has been carried out for the Department of Primary Industries.

(e) Equipment

This section was equipped with a Multi-Channel Pulse Height Analyser in April, 1965. This equipment adds immeasurably to the capacity of this Division to solve the problems associated with the safe use of radioactive substances in medicine, industry and research. The unit will be used not only to solve health physics problems, but will be available to outside laboratories for the investigation of radiation problems.

WEIL'S DISEASE CAMPAIGN

Wet weather conditions prevailed through the slack season months, delayed the start of harvest, and delayed operations for practically the whole of the crushing period which extended from 26 to 36 weeks. As a result not all cane was harvested—some being burnt but left for varying reasons and some carried over for possible harvest in 1965. Boggy fields were the rule and considerable time was lost by both mechanical harvesters and manual cutters. Extensive lodging of the cane crop resulted, and effective pre-harvest burning was rendered most difficult. An increase in the burning figures for health reasons resulted but considering the adverse field conditions the incidence of leptospirosis was lower than expected.

Harbourage eradication and rat baiting operations were considerably limited and the resultant environment favoured an increase in the rat population which is expected to be heavy in 1965, as early widespread rat infestation in fields has been noted. Staff members remained the same with residential control extending from Tully to Mulgrave areas and visits to outlying areas as considered necessary. Pest boards were active in bait usage, an overall increase being recorded. Thallium wheat continues to be favoured as both economical and effective.

A total of 2,378 farm inspections were made and 155 burn orders were issued. 2,911 cane cutters were signed on as compared with 3,509 in the previous period. Mechanical harvesters now total 217 as compared with 120 in 1963. Occupational fevers appear in Table LIV below. The figures in parenthesis show the corresponding incidence for the previous year. All ages, sexes, and occupations are included.

TABLE LIV

District				Lepto- spirosis	Scrub Typhus	Q. fever
Babinda	..	..	..	12 (11)	0 (5)	1 (1)
Innisfail	..	..	..	21 (6)	0 (1)	1 (1)
Tully	..	..	..	0 (4)	1 (1)	3 (0)
Cairns (including Gordonvale)				6 (16)	0 (3)	9 (3)
Totals	..	..		39 (37)	1 (10)	14 (5)

MATERNAL AND CHILD WELFARE SERVICE

Director: H. C. MURPHY, M.B., B.S.

Deputy Director: J. McFARLANE, M.B., B.S.

Medical Officer: J. J. B. REFSHAUGE, O.B.E., M.B., B.S., M.Sc., Dip. Ed. D.P.H.

Medical Officer (Part-time): M. F. NASSER, M.B., B.S., M.R.C.P.

Superintendent: M. F. NIXON, S.R.N., F.C.N.A.

Deputy Superintendent: A. P. HERTWECK, S.R.N.

It has been stated that the infant mortality rate is a sensitive index of the general health level of the community. If this is so, and it is a reasonable assumption, the infant mortality rate of Queensland, coupled with the maternal mortality rate, both of which have reached record low levels, reflects an ever increasing high level in the standard of medical care of mothers and children.

The infant mortality rate for 1964 was 19.2 per thousand live births, the lowest ever recorded. The only other year in which the rate was below 20 was in 1958 when it was 19.4.

The maternal mortality rate for the past two years was 0.25 in 1963 and 0.29 in 1964, the number of deaths being 9 and 10 respectively.

During the past 20 years, that is, since the advent of penicillin and other antibiotics, the infant mortality rate has dropped from 29.8 in 1945 to 19.2 in 1964. Are the antibiotics the sole reason for this spectacular drop? In an endeavour to answer this query the mortality rates for this period were studied from the neonatal (under 28 days of age) group, and the postnatal (between one month and one year) age group. The reason for this division was the belief that the main causes of death in the first group are inherent in the infant and in the second group are largely environmental in origin.

In the neonatal group the rate has dropped from 24 to 13.5 per thousand. The main causes of death were immaturity, congenital malformations, atelectasis and birth trauma.

With the exception of immaturity the antibiotics would have no effect on these conditions, and taking into account the low maternal mortality rate it is quite reasonable to assume that the marked improvement in this group is due to a higher standard of obstetric care.

What of the postnatal group where the main causes of death are the pneumonias, gastro-enteritis and accidents? There is practically no change in the mortality rate, being 5.76 in 1945 and 5.7 in 1964, and if antibiotics were the answer surely this rate would show some improvement.

Following the outbreak of rubella in 1963 when 799 cases were notified, twenty-three babies whose mothers gave a history of rubella and who attended the Maternal and Child Welfare Centres, were found to have abnormalities which are tabled elsewhere in this report. (See Table LXXI.) There was no method available for determining the number of expectant mothers who had rubella, and consequently no estimate could be made of the incidence of congenital malformations associated with pregnancy. Whilst no hard and fast conclusions can be drawn from such a small series, nevertheless observations can be made which agree with findings published overseas and in Australia.

Firstly rubella embryopathy is confined to infection in the first trimester. There was only one history of infection after three months. Secondly the more serious consequences followed infection in the early weeks of pregnancy, and in these, seven out of ten cases of congenital heart condition followed infection in the first four weeks. Thirdly, mental deficiency occurred in only three of the twenty-three cases studied. It is stated to be a rare finding. Lastly, four definite cases of deafness were discovered, and six other cases were queried but not proven.

THE INCIDENCE OF INFECTIOUS DISEASES IN THE UNDER 12 AGE GROUP

A survey was made of the infectious diseases suffered by 1,080 children who were examined prior to admission to the Sandgate Maternal and Child Welfare Home Brisbane, between 1st July, 1963, and 30th June, 1964. Detailed information from the parents is essential in this regard as from time to time epidemics occur at the Home and only children who have already had the current disease can be

admitted; parents are not told of this at the time of examination. The only children omitted from the survey were those where no detailed information was available, e.g., a father giving vague information.

Results

Figure 1 gives the details of the results.

Measles was the most frequent occurring infectious disease and over 50 per cent. of children have had the infection by the age of 4 years; by the age of 8 years over 80 per cent. have been infected.

Chicken pox was the next most frequently occurring disease. By 6 years of age over 50 per cent. of children have been affected. After this the rate of infection is slower but by 12 years of age 70 per cent. have contracted the disease.

In distinction to measles and chicken pox, mumps appeared to affect the older rather than the younger child. Approximately 25 per cent. of the children have suffered from mumps by the age of 6 years; over 50 per cent., however, had been affected by the age of 12 years.

Whooping cough occurred in immunized as well as unimmunized children but the incidence is approximately the same in all age groups. This does not suggest that it is very infectious; immunization gives good protection.

German measles presented no definite pattern probably because epidemics of it occur only every 3-5 years, rather than each year as is the case with measles and chicken pox. In addition the duration of the illness is short and it may not be diagnosed at the time of the infection.

It is interesting to note that there were 6 cases of scarlet fever, 1 case of diphtheria and 2 cases of polio in this group of 1,080. Both the children who had polio were immunized but it was not stated if this was before or after the attack; the same applied to the child who had had diphtheria.

EXTENSIONS OF THE SERVICE

Throughout the State there are now 264 Centres and Sub-Centres, 83 being in the metropolitan area and 181 in the country. Centres were established at Inala East and Coorparoo, while a Parent Centre was opened at Margate in the metropolitan area on 28th June, 1965.

A Parent Centre in Civic Centre, Little Street, Toowoomba, was opened by The Honourable S. D. Tooth, Minister for Health, on 13th February, 1965, and Royal Street Clinic was made a Sub-Centre of Toowoomba.

The Mobile Clinic Van has now completed its first full year of operation and the itinerary has been extended to include Albany Creek, Lawnton and Blunder Road. Total attendances for the year numbered 6,305. The attendances at East Inala were more than the Mobile Van could cope with and a new Sub-Centre at East Inala was opened on three days each week.

Since February, 1965, the Deputy Director has given a weekly talk of 5-10 minutes duration on B.T.Q. Channel 7 as part of their women's programme. The public response has been good. The talks given cover a wide variety of subjects and include: "The need for Ante-natal Care"; "Clothes for the Expectant Mother"; "Toxemia of pregnancy"; "Diet during pregnancy"; "Planning a Nursery"; "Bathing baby"; "What the Mother to be, sees when she enters hospital"; "Physiotherapy in Obstetrics".

The introduction of lessons in mothercraft at all High Schools throughout the State came into operation in January, 1964. During the year a total of 43,000 miles were travelled and the results of the work have been most satisfactory. Mothercraft lessons were given at 155 schools in Queensland to 11,213 girls. 10,118 students sat for examination and 8,478 obtained a pass of 60 per cent. and over.

Schools and Homes listed below are given this service:—

Schools and Homes listed below are given this service

Metropolitan State High Schools	36
Metropolitan Convents	20
State High and Church Schools in Country Districts	86
Rail Car	9
Salvation Army Girls Industrial School, Convent of the Good Shepherd, Spastic Centre and the Technical College ..	4
	<hr/> 155 <hr/>

TABLE LV

ATTENDANCES OF INFANTS AND CHILDREN AT MATERNAL AND CHILD WELFARE CENTRES AND SUB-CENTRES

Metropolitan

—	1962-63	1963-64	1964-65
Chermside and Sub-Centres (from 2-9-63) .. ..	..	7,969	11,028
Children's Hospital Clinic (from 8-6-64) .. ..	..	5	417
Fortitude Valley and Sub-Centres ..	25,281	22,875	21,727
Herschell Street and Sub-Centres ..	18,977	18,186	19,253
Inala and Sub-Centres ..	9,273	10,528	9,203
Mobile Clinic (from 19-2-64) ..	..	1,954	6,273
Moorooka and Sub-Centres (from 28-11-60)	12,533	12,183	10,432
Mount Gravatt and Sub-Centres ..	6,463	11,361	14,429
Nundah and Sub-Centres ..	16,329	10,742	11,306
Paddington and Sub-Centres ..	12,775	13,271	12,267
Sandgate and Sub-Centres ..	13,953	12,919	13,396
West End and Sub-Centres ..	9,241	8,095	8,207
Woolloongabba and Sub-Centres ..	24,603	23,440	25,954
Wynnum and Sub-Centres ..	10,816	12,302	11,893
Total Metropolitan	160,244	165,830	175,785

Country

Atherton and Sub-Centres	3,870	4,121	3,438
Ayr and Sub-Centres	6,522	7,128	7,072
Barcaldine and Sub-Centres	2,851	2,265	1,491
Biloela and Sub-Centres	5,691	6,290	4,874
Bowen and Sub-Centres	5,618	5,478	5,094
Bundaberg and Sub-Centres	11,774	11,450	11,559
Cairns and Sub-Centres	18,817	18,410	18,548
Charleville and Sub-Centres	3,638	3,450	2,596
Charters Towers and Sub-Centres ..	2,778	2,904	3,088
Dalby and Sub-Centres	5,394	5,011	5,193
Emerald and Sub-Centres	4,379	4,044	3,797
Gayndah and Sub-Centres	5,660	5,844	5,800
Gladstone and Sub-Centres	4,479	4,145	3,981
Goondiwindi and Sub-Centres	5,751	5,858	6,085
Gympie and Sub-Centres	9,862	10,248	9,589
Ingham and Sub-Centres	5,085	5,613	5,801
Innisfail and Sub-Centres	9,479	9,244	8,705
Ipswich and Sub-Centres	19,540	19,001	18,052
Kingaroy and Sub-Centres	3,123	2,912	2,911
Longreach and Sub-Centres	3,329	3,822	3,504
Mackay and Sub-Centres	18,199	18,575	18,107
Mareeba and Sub-Centres	6,540	6,422	6,408
Maryborough and Sub-Centres	10,777	9,684	10,154
Mount Isa and Sub-Centres	6,651	7,118	7,520
Murgon and Sub-Centres	5,394	4,060	3,207
Nambour and Sub-Centres	6,638	6,285	6,638
Railway Car Sub-Centres	3,557	2,840	4,209
Rockhampton and Sub-Centres	20,597	18,823	16,820
Roma and Sub-Centres	5,565	4,792	5,179
Southport and Sub-Centres	9,565	8,930	9,287
Toowoomba and Sub-Centres	11,054	10,782	11,390
Townsville and Sub-Centres	20,290	18,885	19,946
Warwick and Sub-Centres	5,922	5,087	5,656
Social Welfare Services	4,160	4,946	5,207
Total Country	272,549	264,467	260,906
Metropolitan	160,244	165,830	175,785
Country	272,549	264,467	260,906
Grand Total	432,793	430,297	436,691

ANTE-NATAL SECTION

During 1964-65 a total of 999 new cases attended the Ante-natal Clinics at Inala, Woolloongabba, Fortitude Valley, Moorooka and Caboolture; 902 Papanicolau smears were performed and the following abnormalities were discovered:—

- 7 mothers—cells suspected of being malignant
- 5 mothers—atypical cells present
- 6 mothers—conclusive morphology of malignancy

One mother who had attended the Inala Clinic died of lung cancer before confinement—twins were delivered by post mortem Caesarian section but did not survive.

The quarterly film showings to expectant mothers held at the Valley Clinic are increasingly well attended as are the Mothercraft lectures given by the sister-in-charge of the Fortitude Valley, Woolloongabba, Inala and Moorooka Clinics. The film “A Quarter of a Million Teenagers” has been added to the list of films used.

During the year a survey was made to see if there was any association between the improved maternal mortality rate over the last 4 years and the improved infant mortality rate. The number of still-births and the number of infant deaths due to birth injury are the only infant deaths with which the standard of obstetrical care can be directly related. Table LVI, coupled with the reduced number of maternal deaths, shows that, there has been a reduction in the total number of deaths due to birth injury and still-birth.

TABLE LVI

SHOWING NUMBER OF MATERNAL AND INFANT DEATHS IN QUEENSLAND SINCE 1961

Year	Maternal Deaths	Infant Deaths (Birth Injury and Still Birth)
1961	28	653
1962	23	609
1963	9	565
1964	10	486

TABLE LVII

SUMMARY OF ANTE-NATAL PATIENTS

—	New Patients	Subsequent Visits	Post-natal Examination	Transfers	Total
Caboolture ..	37	165	32	1	235
Fortitude Valley	223	1,902	145	..	2,270
Woolloongabba	312	2,286	245	1	2,844
Inala ..	325	2,913	310	6	3,554
Moorooka ..	102	886	96	59	1,143

PAPANICOLAU SMEARS

Caboolture	32
Fortitude Valley	207
Woolloongabba	268
Inala	392
Moorooka	5
Total	904

MARRIAGES

Registration of marriages in 1964 numbered 11,752, giving a marriage rate of 7.4 per 1,000 mean population, compared with 7.3 in the previous year. Minors married numbered 6,759, comprising 1,636 males and 5,123 females.

INFANTILE MORTALITY

Deaths of infants aged under one year numbered 673, comprising 390 males and 283 females, compared with 722 in 1963. The infant mortality rate was 19.2 deaths per thousand live births, the lowest ever recorded.

The rates for the different parts of the State were metropolitan 17.0, other sub-tropical areas 18.6, and tropical areas 23.6 per 1,000 live births.

The total number of deaths due to prematurity (unqualified) was 129 compared with 144 in 1963. Deaths from prematurity since 1955 were as follows:—

1955	137
1956	188
1957	163
1958	139
1959	118
1960	140
1961	141
1962	131
1963	144
1964	129

The metropolitan area recorded the same number of deaths from immaturity (unqualified) as in 1963, whilst in the tropical and sub-tropical (non-metropolitan) areas the number of deaths decreased by 12 and 3 respectively.

Deaths of children aged one year and under five years

(a) Deaths of children aged one year and under two years during the year 1964 numbered 70, representing a death rate of approximately 2.0 per 1,000 children in that age group. There were 64 deaths in 1963.

The chief causes of death were—

Accidents	18
Pneumonia—	
Bronchopneumonia .. 9 }	16
Other types 7 }	
Congenital malformations	7
Gastro-enteritis	4
Measles	3
Meningitis	3

Of the 18 deaths (12 males and 6 females) due to accidents, 4 were caused by motor vehicle accidents, 3 by accidental poisoning and 5 by drowning.

(b) The deaths of children aged two years and under five years during the year numbered 73, representing a death rate of approximately 0.7 per 1,000 children in that age group. Deaths in 1963 were 79.

The chief causes of deaths were—

Accidents	27
Pneumonia (all kinds)	11
Malignant neoplasms	8
Congenital malformations	4
Bronchitis	3
Cerebral spastic infantile paralysis	2
Gastro-enteritis	2

Of the 27 deaths due to accidents, 7 were caused by motor vehicle accidents, 11 by drowning, 2 by fire and explosion of combustible material, and 2 by firearm accidents.

MATERNAL MORTALITY

The maternal mortality rate was 0.29 per 1,000 live births, the second lowest rate ever recorded in Queensland. Ten deaths were caused by diseases and accidents of pregnancy and childbirth. Of these, 4 were due to complications of childbirth and 4 to diseases and accidents of pregnancy (excluding 2 abortions). The causes of the 4 deaths due to diseases and accidents of childbirth were as follows:—

Disproportion or malposition of foetus ..	1
Amniotic fluid embolism	2
Ruptured uterus	1

The cause of the 4 deaths due to diseases and accidents of pregnancy were as follows:—

Toxaemias of pregnancy	2
Infections of genito-urinary tract during pregnancy	2

TABLE LVIII
SHOWING COMPARISON OF MATERNAL MORTALITY,
QUEENSLAND AND AUSTRALIA

Year	Maternal Deaths		Maternal Mortality Rate*	
	Queensland	Australia	Queensland	Australia
1911	98	615	5.77	5.03
1921	108	643	5.31	4.72
1931	108	650	6.06	5.48
1941	92	490	4.28	3.64
1951	35	203	1.18	1.05
1956	29	119	0.89	0.56
1957	21	138	0.62	0.63
1958	16	111	0.47	0.50
1959	21	104	0.59	0.46
1960	24	121	0.68	0.53
1961	28	107	0.76	0.44
1962	23	85	0.64	0.33
1963	9	64	0.25	0.27
1964	10	75	0.29	0.33

* Per 1,000 live births

TABLE LIX
MATERNAL MORTALITY—AUSTRALIAN STATES
1962-1964

	1962		1963		1964	
	No. of deaths	Rate*	No. of deaths	Rate*	No. of deaths	Rate*
New South Wales ..	29	0.34	27	0.32	28	0.34
Victoria	12	0.18	14	0.21	20	0.31
Queensland	23	0.64	9	0.25	10	0.29
South Australia ..	13	0.61	6	0.28	7	0.33
Western Australia ..	5	0.29	4	0.23	6	0.36
Tasmania	3	0.34	2	0.24	2	0.24
Northern Territory ..	†	†	1	1.6	1	1.09
Australian Capital Territory ..	†	†	1	0.5	1	0.5
Australia ..	85	0.36	64	0.27	75	0.33

* Per 1,000 live births

† No deaths

TABLE LX
CAUSES OF DEATHS IN INFANTS UNDER ONE YEAR—QUEENSLAND, 1964

Cause	1963	1964				Increase or Decrease
		Metro-politan	Sub-Tropical (a)	Tropical	Total	
Immaturity (unqualified)	144	33	51	45	129	} -14
Immaturity with mention of any other subsidiary condition ..	3	..	1	3	4	
Congenital Malformations	132	69	37	35	141	+ 9
Post-natal Asphyxia and Atelectasis	62	22	19	16	57	- 5
Intercranial and Spinal injury at birth	44	14	17	13	44	..
Other birth injury	45	9	13	18	40	- 5
Haemolytic disease of newborn (Erythroblastosis)	19	4	6	4	14	- 5
Pneumonia of newborn	23	4	3	7	14	- 9
Haemorrhagic disease of newborn	11	2	7	..	9	- 2
Neo-natal disorders arising from Maternal Toxaemia	5	2	4	3	9	+ 4
Diarrhoea of newborn	2	..	3	..	3	+ 1
Other diseases peculiar to early infancy /	80	28	16	12	56	-24
Total of diseases peculiar to early infancy	570	187	177	156	520	-50
Bronchopneumonia, other and unspecified Pneumonia	54	12	19	19	50	- 4
Gastroenteritis and Colitis	15	..	4	7	11	- 4
Lobar Pneumonia	12	1	2	3	6	- 6
Diseases of Pancreas	3	2	1	1	4	+ 1
Meningitis except Meningococcal and Tuberculosis	9	3	1	1	5	- 4
Accidents Poisonings and Violence	14	3	8	5	16	+ 2
All other causes	45	20	25	16	61	+16
Total deaths under 1 year	722	228	237	208	673	-49

(a) Excluding Metropolitan.

TABLE LXI
CAUSES OF DEATHS IN INFANTS UNDER ONE MONTH OF AGE—QUEENSLAND, 1964

Cause	1963	1964				Increase or Decrease
		Metro- politan	Sub- Tropical (a)	Tropical	Total	
Immaturity (unqualified)	144	33	51	44	128	} - 12
Immaturity with mention of any other subsidiary condition .. .. .	..	..	1	3	4	
Congenital malformations	13	44	23	20	87	+ 4
Post-natal Asphyxia and Atelectasis	62	22	19	15	56	- 6
Intracranial and Spinal injury at birth	44	14	17	13	44	..
Other birth injury	45	9	13	18	40	- 5
Haemolytic diseases of newborn (Erythroblastosis)	19	4	6	4	14	- 5
Pneumonia of newborn	23	4	3	7	14	- 9
Haemorrhage disease of newborn	11	2	7	..	9	- 2
Neo-natal disorders arising from Maternal Toxaemia	5	2	4	3	9	+ 4
Diarrhoea of newborn	2	..	3	..	3	+ 1
Other diseases peculiar to early infancy	74	27	15	11	53	- 21
<i>Total diseases peculiar to early infancy</i>	512	161	162	138	461	- 51
All other causes	20	8	3	1	12	- 8
Totals	532	169	165	139	473	- 59

(a) Excluding Metropolitan.

TABLE LXII

CAUSES OF DEATHS IN INFANTS MORE THAN ONE MONTH, BUT LESS THAN TWELVE MONTHS OF AGE—QUEENSLAND, 1964

Cause	1963	1964				Increase or Decrease
		Metro- politan	Sub- Tropical (a)	Tropical	Total	
Immaturity (unqualified) .. .. .	..	..	..	1	1	} - 2
Immaturity with mention of any other subsidiary condition	3	..	..	..	..
Congenital Malformations	49	25	14	15	54	+ 5
Post-natal Asphyxia and Atelectasis .. .. .	..	..	..	1	1	+ 1
Other diseases peculiar to early infancy	6	1	1	1	3	- 3
<i>Total of diseases peculiar to early infancy</i>	58	26	15	18	59	+ 1
Bronchopneumonia, other and unspecified Pneumonia	54	12	19	19	50	- 4
Gastroenteritis and Colitis	15	..	4	7	11	- 4
Lobar Pneumonia	12	1	2	3	6	- 6
Diseases of Pancreas	2	1	1	1	3	+ 1
Meningitis, except Meningococcal and Tuberculosis	8	2	1	1	4	- 4
Accidents, Poisonings, and Violence	12	2	8	5	15	+ 3
All other causes	29	15	22	15	52	+ 23
<i>Total deaths 4 weeks and under 1 year</i>	190	59	72	69	200	+ 10

(a) Excluding Metropolitan.

TABLE LXIII

DEATHS OF INFANTS UNDER ONE YEAR OF AGE FROM CONGENITAL MALFORMATIONS*

Congenital Malformations	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964
Monstrosity	7	11	7	8	6	8	4	6	10	9
Spina bifida and meningocele	13	14	17	10	18	20	16	14	19	13
Congenital hydrocephalus	10	13	11	14	12	8	16	15	5	4
Nervous system	5	3	3	5	2	5	5	..	5	5
Circulatory system	54	47	59	47	73	72	77	56	59	66
Cleft palate and harelip	1	2	1	2	2	..	2	1	1	..
Digestive system	24	25	26	16	18	16	11	17	10	18
Genito-urinary system	5	7	2	3	6	9	7	4	7	6
Bone and joint	4	1	..	2	3	1	2	..	4	2
Unspecified	5	12	6	6	15	12	9	17	12	18
Totals	128	135	132	113	155	151	149	130	132	141
Congenital malformations as a percentage of total infant deaths under one year of age	19.5	18.3	18.0	17.2	21.5	20.4	20.3	17.2	18.3	21.0

*Excluding congenital mental deficiency, hernia, mucoviscidosis.

TABLE LXIV
CAUSES OF DEATHS OF PREMATURE (IMMATURE) INFANTS

	1962	1963	1964
Immaturity unqualified	131	144	129
Ill-defined diseases peculiar to early infancy, with immaturity	42	60	46
Post-natal Asphyxia and Atelectasis, with immaturity	56	38	32
Intracranial and Spinal injury at birth, with immaturity	8	13	15
Other birth injury, with immaturity	32	28	31
Neo-natal disorders arising from Maternal Toxaemia, with immaturity	10	5	8
Pneumonia of newborn, with immaturity	4	6	5
Haemorrhagic diseases of newborn, with immaturity	2	2	1
Haemolytic disease of newborn, with immaturity	11	8	5
Nutritional Maladjustment, with immaturity	1	1	..
Immaturity with mention of any other subsidiary condition	2	3	4
Umbilical Sepsis, with immaturity .. .. .	..	1	..
Other Sepsis of newborn, with immaturity .. .. .	..	3	..
Diarrhoea of the newborn, with immaturity	2	1	1
Totals	301	313	277
Total under one year, with immaturity	301	313	277
Total under one month, with immaturity	296	308	276

TABLE LXV
ACCIDENTAL DEATHS OF CHILDREN (AGED 1 AND UNDER 15 YEARS)

	1959		1960		1961		1962		1963		1964		Total
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	
Road Accidents	24	11	17	13	16	19	26	12	25	10	23	16	212
Firearms	6	..	2	1	1	..	4	3	2	1	5	2	27
Drowning	19	7	11	6	18	3	13	4	19	5	23	10	138
Falls	1	2	2	1	..	..	3	..	..	2	1	1	13
Other Accidents	22	14	19	22	31	4	27	14	26	11	17	9	216
	72	34	51	43	66	26	73	33	72	29	69	38	606
Totals	106		94		92		106		101		107		606

Accidental deaths of children aged one and under fifteen years

Accidental deaths of children in this age group numbered 107 in 1964 compared with 101 in 1963 and an average of 97 in the ten years 1955 to 1964 inclusive. The total deaths of children in this age group from all causes were 297, of which 36.0 per cent., were caused by accident.

DIRECTOR'S CONSULTANT CENTRE

Number of children and babies whose mother received advice	1,386
Number examined for admission to Sandgate Home	1,512
Number advised by telephone	1,566
Total	4,464

TABLE LXVI
SOCIAL WELFARE SECTION

	1963-64	1964-65
Social Service Visits	4,946	5,207
Number of newborns visited in Home	711	626
Number of newborns visited in Brisbane Women's Hospital, St. Andrew's, Corinda Maternity and Boothville	9,411	8,733
Number of test feeds given	74	57

PRE-SCHOOL HEALTH CENTRES

Six thousand three hundred and twenty (6,320) toddlers were examined during the year. Three hundred and eighty-seven (387) Clinics were held during the year and the daily average attendance was 16.3. Fifteen (15) Kindergartens are now visited and it is hoped to extend this service during the coming year. New Clinics were opened at St. Lucia, Graceville-Chelmer and Kedron Heights.

Country Centres

	Total	Daily Average
Cairns	450	12.8
Rockhampton	192	8.7
Townsville	307	12.7

CORRESPONDENCE SECTION

A slight increase in number of birth notifications received has resulted in more mothers responding to No. 2 Circular. Letters of advice are being forwarded to Northern Territory, New Guinea as well as distant areas within the State. Mothers living in areas serviced by the Mobile Van are now able to receive personal advice, and telephone calls are correspondingly reduced.

Final year medical students; senior nursing students from metropolitan areas, and social work students have visited this Section.

TABLE LXVII
SHOWING STATISTICS AT MOTHERCRAFT HOMES

	Admissions		Daily Average	
	Mothers	Babies	Mothers	Babies
St. Paul's Terrace	71	264	1.8	13.7
Clayfield	74	207	2.6	12.5
Ipswich	95	168	2.8	8.0
Rockhampton	42	117	1.1	8.4
Toowoomba	28	105	0.8	9.7

SANDGATE HOME

During the year 994 children between the ages of 18 months and 12 years, and 268 babies under this age, were admitted to the Home.

Despite every precaution to prevent the entry of infectious diseases, epidemics of whooping cough, measles, mumps and chicken pox occurred, necessitating closure of both Homes for varying periods.

The progress of the babies and children have been quite good throughout the year, although the usual feeding difficulties have been encountered.

On 29th June a male infant aged nine weeks, who had been in residence for 1½ days, suddenly died in his cot. Post mortem examination showed pneumonitis of both lungs.

TABLE LXVIII

VISITS TO NEWBORNS, SUBSEQUENT AND TOTAL VISITS

Year	Visits to Newborns	Subsequent and other Visits	Total Visits
1962-63	29,986	2,266	32,252
1963-64	29,444	1,935	31,379
1964-65	28,803	1,828	30,631

TABLE LXIX

ANALYSIS OF NEW PATIENTS SEEN AT THE CENTRES

		1962-63	1963-64	1964-65
Infants—				
Under one year	.. ..	23,070	22,856	22,765
One to two years	.. ..	6,277	6,313	6,562
Over two years	.. ..	2,198	2,307	2,182
Totals	.. ..	31,545	31,476	31,509
Expectant mothers	.. ..	1,389	1,568	1,894
Total new cases	.. ..	32,934	33,044	33,403

TABLE LXX

TOTAL ATTENDANCES OF INFANTS AND CHILDREN AND EXPECTANT MOTHERS AT CENTRES

1962-63	1963-64	1964-65
446,578	444,372	451,951

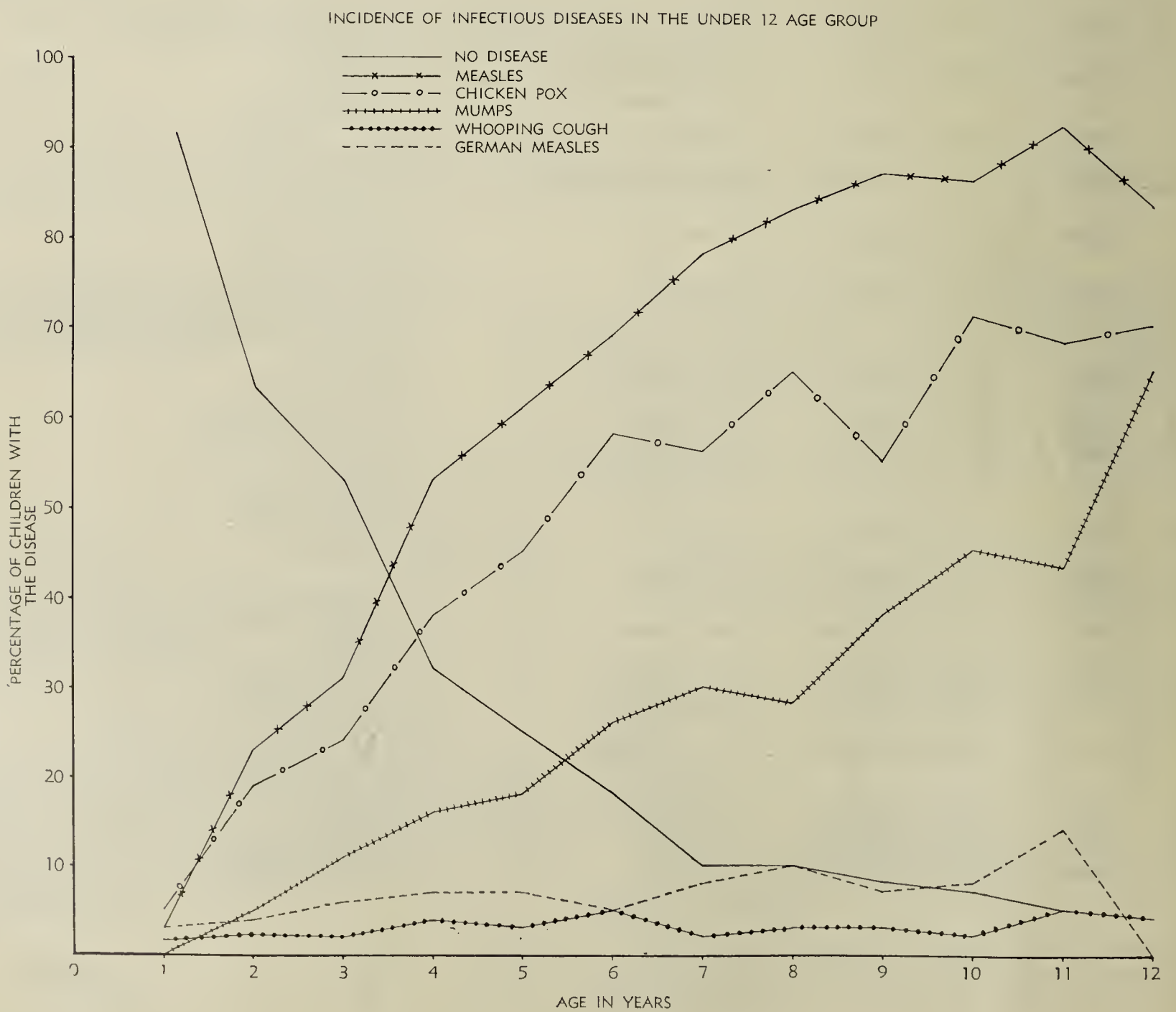
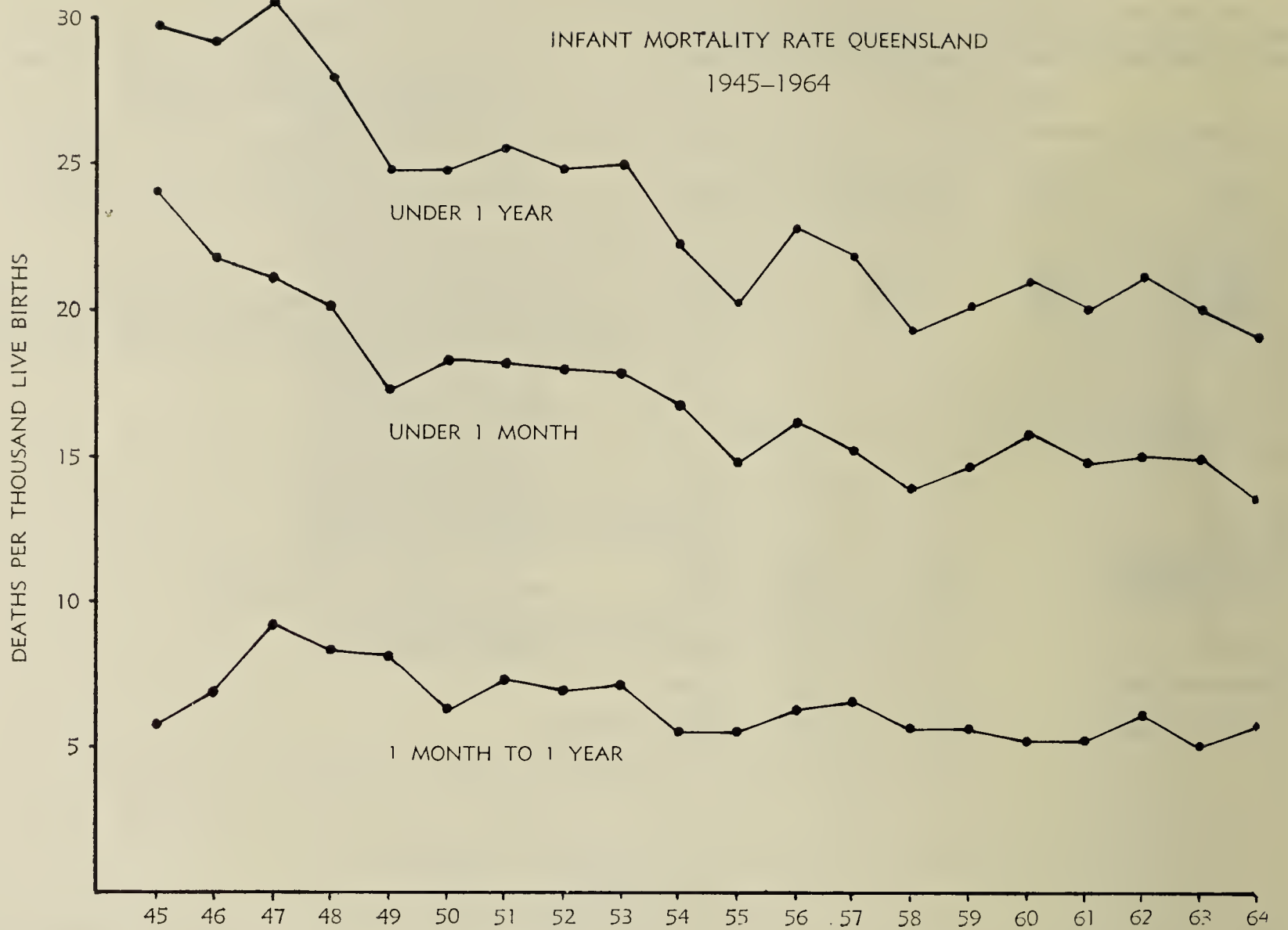
The following are the titles of the articles of topical interest which have been forwarded each month to 60 newspapers throughout the State:—

- The Exploring Ones
- Summer Sunshine
- Eye Accidents
- Choosing Babies' Layette
- Love at Feed Time
- Furnishing the Nursery
- What is the P.K.U. Test?
- Don't lose faith in immunization
- The role of parents
- Night coughs

TABLE LXXI

POST RUBELLA SURVEY

Number	Sex	Date of Birth	Birth Place	History of Rubella	Abnormalities
1	Male ..	14-5-65	Brisbane ..	Direct contact at 8/52 gamma globulin given on 20-10-64. Confined 14-5-65	1. Congenital Heart Disease. P.D.A. V.S.D. 2. L. microphthalmia c cataract 3. ? Deafness
2	Female	13-9-64	Brisbane ..	Rubella in first 3 weeks of pregnancy	1. Cataract L. eye 2. Congenital Heart 3. ? Microcephaly
3	Female	3-5-64	Brisbane ..	Rubella in 1st. Trimester ..	1. Deaf 2. Congenital Heart
4	Male ..	..	St. George ..	Rubella in 4-6 weeks	1. Patent Ductus 2. ? Deafness 3. Mental retardation
5	Female	30-6-64	Kilcoy	Two weeks	1. Congenital Heart 2. ? Deaf 3. Bilateral cataracts
6	Female	6-5-64	Brisbane ..	Eight weeks	1. Microcephalic c evidence of retardation 2. Spasticity involving mainly lower limbs 3. Rubella embryopathies causing retinitis pigmentosa
7	Male ..	7-3-64	Brisbane ..	13-14 weeks	1. Fallots Tetralogy 2. Cleft palate
8	Female	25-11-64	Brisbane ..	? 3-4 weeks	1. Hare lip and cleft palate
9	Female	1-5-64	Brisbane ..	1st month	1. "Hole" in the heart
10	Male ..	26-6-64	Brisbane ..	Had rubella. Period not stated	1. Heart condition 2. ? Deaf
11	Male ..	4-3-64	Brisbane ..	1st-2nd week	1. Cataracts 2. ? Heart condition
12	Female	27-3-64	Brisbane ..	4 months	1. Mental retardation 2. ? Deafness
13	Female	26-6-64	Brisbane ..	Early weeks	Nil
14	Female	4-7-64	Charters Towers	Six weeks	1. Deafness 2. ? Heart condition
15	Male ..	27-6-64	Biggenden ..	First 3 weeks	1. Congenital Heart. P.D.A. 2. Deafness
16	Female	28-7-64	Brisbane ..	First 3 weeks	1. Cardiac condition.
17	Male ..	8-7-64	Brisbane ..	Second month	1. "Hole" in the heart.
18	? ..	24-7-64	Brisbane ..	First Trimester	1. ? Congenital Heart. 2. ? Deafness.
19	Female	1-9-64	Southport ..	History ? Date	1. Microphthalmia 2. Bilateral cataracts 3. Congenital Heart. P.D.A.
20	Female	5-10-64	Brisbane ..	1st Trimester	1. L Cataract
21	Male ..	13-7-64	Brisbane ..	Early pregnancy	1. Cataracts
22	Female	19-7-64	Brisbane ..	1st month	1. Congenital Heart
23	Female	24-6-64	Maryborough ..	8th week	1. Deafness. Complete



DIVISION OF SCHOOL HEALTH SERVICES

Chief Medical Officer: G. M. S. MAY, M.B., B.S. (Melb.)

Medical Officer: V. M. O'HARA, M.B., B.S. (Syd.)

Chief Dental Officer: T. D. PUGH, L.D.S. (Eng.), L.D.Q.

INTRODUCTORY REMARKS

The increase in numbers of school children in all groups has continued and the annual intake of teacher trainees has also continued to increase. During the year, 7,941 children were examined in the metropolitan area, compared with 6,311 in 1963-64, an increase of 26 per cent. There is a sharp increase in the number of parents requesting appointments for interview, particularly concerning behaviour and maladjustment. In 1965, 989 student teachers began study either at Training Colleges, or at the University of Queensland. The majority required medical examination by School Health Services. Many required further investigation to determine their fitness, or suitability to the duties required. Monthly visits to Training Colleges have been continued, a large number of students availing themselves of this advisory facility. The adoption of hearing standards for teachers, following the pattern of other States, has simplified fitness decisions in deaf subjects. Examinations of teacher trainees are mostly carried out by the School Medical Officer, in addition to the duties of examining school children. To meet these and other demands, an additional Medical Officer has become necessary.

The part-time Medical Officer examined nearly 1,000 children in the Ipswich District. In addition, a number of children are examined by the Chief Medical Officer in other country centres.

There is now a full complement of School Sisters. Two new appointees have almost completed their specialised training and will be then posted to two country centres. One posting will be to the Gympie district, where Sister K. Bowder retired after 29 years of conscientious and devoted service. She was held in high esteem by the countless children who have been under her supervision. The Cairns Coastal area was vacant for ten months, so that statistical data were obtained from only two months of visits to schools in that area. The Townsville (Western) and Rockhampton (Western) districts, following periods of vacancy, have been staffed for the past year, and most schools in these districts have been visited, including schools at Burketown, Normanton, Croydon, Coen and Thursday Island. Visits have been made to native schools on Palm Island, at Woorabinda and Thursday Island, and visits to Bloomfield River, Yarrabah and others will soon be made.

SCHOOL VISITS

Following the interruption to routine School Health examinations, caused by the Salk Vaccination Campaign, metropolitan Sisters proceeded to examine all grades. These itineraries took from 12 months to 2½ years to complete, while country areas, continuing with alternate grade in the larger schools, completed their itineraries in 12 to 18 months.

From July, 1964, in metropolitan schools, examinations were modified with a view to achieving annual inspections in all districts. Accordingly, as Grade II children, with greater maturity than Grade I children, gave increased reliability to the results of examinations, especially in visual acuity and hearing levels, Grades II and VII were fully examined, and an intermediate grade was seen. All children with previously recorded disabilities were rechecked, and children retarded in Grade I were included. Grade VII examinations afford the last opportunity to see the child before passing to High School. More information from teachers' observations on children's performance was sought, particularly in the other grades. Teachers were asked to indicate any child causing concern, either in behaviour or lack of progress. These were examined to determine whether vision, hearing or other medical reasons should underlie this condition. In addition to those fully examined, visual and audiometric screenings of other classes were sometimes carried out. In this way every child is examined at least twice and usually three times during his attendance at primary school, his vision and hearing being checked more frequently.

More attention is being given to emotionally disturbed children. Some were found during examinations, others were referred by teachers, while parents often sought advice. This resulted in increased referrals to the Division of Welfare and Guidance, and after discussions with the Senior Medical Director, the questionnaire to parents (Medical Form II) was modified to include some behavioural aspects of the child's history. Consequently more parents sought advice, and referrals further increased. A total of 192 referrals was made,

while another 66 parents who could not be seen were advised by letter to seek direct appointments with that Division. Sisters interviewed more parents at the school or in the homes, and many were seen at the School Health office to determine which children were suitable cases for referral.

To assist in this preliminary screening, two psychiatrists from the Division of Welfare and Guidance have interviewed parents at School Health Services office on two mornings each week, referring the more urgent problems for further investigation. This procedure has revealed a large number of persisting bed-wetters, many parents accepting this without any investigation or treatment. The import of this is being studied.

NOTIFICATION OF DISABILITIES

Since the seminar which was held in 1964, there has been a noticeable increase in interest by the Sisters in the work they are doing. Many aspects have become more meaningful, and a better understanding of the children's problems is apparent.

Despite a gap in supervision in two metropolitan districts, and the prolonged gap in the Cairns district, the total number of examinations has increased.

TABLE LXXII
DETAILS OF ROUTINE SCHOOL HEALTH EXAMINATIONS

	Metro- politan	Country	Total
Number on roll	52,543	97,853	150,396
Number examined fully	20,431	66,464	86,895
Number examined vision only	17,634	1,766	19,400
Total number examined	38,065 (72%)	68,230	106,295
Number examined by Medical Officers	7,941 (15%)	1,806	9,747
Children with defects notified	1,491 (3.9%)	3,042 (4.6%)	4,533 (4.3%)
Defects notified	1,582	3,308	4,890
Defects notified IVA	101	975	1,076
Colour vision defects notified	217	900	1,117
Colour vision defects not notified	73	196	269
Dental defects notified	516	2,025	2,541

Altogether 9,747 were medically examined, but those examined and screened by the Chief Medical Officer in western centres were not included. Metropolitan Sisters examined 20,431 children, and screened 17,634, a total of 38,065. The interruption by teacher trainee examinations was greater than in previous years, occupying the greater portion of the first term.

Country Sisters examined 66,464 children and screened a further 1,766, totalling 68,230. Thus 106,295 children were seen. Of these 1,491 metropolitan children (3.9 per cent.), with 3,042 (4.6 per cent.) country children, a total of 4,533 (4.3 per cent.), had 4,590 defects which warranted referral for further medical advice. This is a little higher than the previous year, and corresponds with most other States in numbers thus referred. Defects not requiring immediate attention are brought to the parents' notice, and a further 1,076 defects were treated in this way. Colour vision defects numbered 1,117 and many were notified to parents. Those disabilities or defects receiving attention, or known to parents, and including allergies, epilepsies, &c., are not included in the statistical calculations as in some other States.

TABLE LXXIII
INCIDENCE OF HEARING LOSSES

	Metro- politan	Country	Total
Number tested audiometrically	17,285	37,466	54,751
Number tested whisper	11,349	21,173	32,522
Hearing losses	235	455	690
Referred to C.A.L. .. ..	..	..	222

A number of audiometers are loaned by the Commonwealth Acoustic Laboratory and this facilitates reasonably accurate audiometric testing, under all conditions. Altogether 17,285 metropolitan and 37,466 country children, totalling 54,751, were screened audiometrically and 32,522 were given a whisper test. Of these 235 metropolitan and 455 country, a total of 690 children, were found to have hearing losses. Of these, 222 were considered to be severe enough for further screening by the Commonwealth Acoustic Laboratory, and many of the remainder would have been referred to their own medical practitioners.

TABLE LXXIV
SHOWING DETAILS OF APPARENT DEFECTS NOTIFIED

	Metro-politan	Country	Total
Visual defects notified	793	1,448	2,241
Squints	131	281	412
Other eye defects	57	155	212
Tonsil enlargement	26	201	227
Groin and scrotal swellings ..	107	175	282
Postural defects	42	71	113
Lower limb defects	37	63	100
Other defects (skin, &c.)	95	428	523
Heart murmurs	59	11	70
Percentage heart defects of those examined by Medical Officers ..	0.74%	0.61%	0.72%

Following the general annual pattern, visual defects comprise the greatest proportion of disabilities, a total of 2,241 being notified (2.1 per cent.). Including squints, latent and manifest, 2.4 per cent. of children examined showed a visual defect. Thirty (30) exceeded the limits laid down, and were included in the Register of Partially Sighted Children. These are notified to the Research and Guidance Branch of the Education Department.

Hearing loss occurred next in frequency (1.3 per cent.) and has already been discussed.

A number of postural defects (113) and lower limb defects (100) were notified. These represent the more severe instances where some form of orthopaedic treatment seems warranted. A number of lazy postures are seen, readily corrected by appropriate advice, only to recur. There are many instances of early hallux valgus, pes planum, and valgus deformity of ankles. Some schools encourage good supportive footwear, while many children wear unsuitable types, which frequently aggravate the disability.

Of 7,941 metropolitan children examined by medical officers, 59 (0.74 per cent.) revealed cardiac murmurs, as did 11 country children of the 1,806 examined. All were referred to their own medical advisers.

TABLE LXXV
SHOWING DETAILS OF INTERVIEWS AND REFERRALS

	Metro-politan	Country	Total
Interviews by Sisters—			
(a) at schools	164	612	776
(b) at homes	74	166	240
(c) total	238	778	1,016
Referred Social Worker	40	..	40
Referred Bush Children's Health Scheme .. ..	..	92	92
Referred Research and Guidance ..	67	..	67
Referred Welfare and Guidance—			
(a) direct referrals	192	..	192
(b) parent advised	66	..	66

Altogether 84.5 per cent. of parents of children notified sought advice, while 2.3 per cent. promised to seek attention at the first opportunity; 2.5 per cent. left and could have received attention without advising the school. This leaves only 10.7 per cent. who took no action, an improvement on previous years.

TABLE LXXVI
RESPONSE TO NOTIFICATIONS

	Treatment Sought	Promise	Nil	Left
	%	%	%	%
City	84.2	1.7	10.6	3.5
Country	84.7	2.6	10.7	2.1
Total	84.5	2.3	10.7	2.5

QUEENSLAND AGRICULTURAL COLLEGE

Two visits were made to immunise new students against tetanus, and to give booster doses as required. Staff members were again included.

TRACHOMA INVESTIGATION—VISIT TO WESTERN SCHOOLS

In August, 1964, the Chief Medical Officer and the Chief Dental Officer visited schools in the western and north-western part of the State. Commencing at Augathella, continuing to Cloncurry and east to Richmond, examinations of eyes of more than 500 children were carried out, and although many instances of simple subacute conjunctivitis were seen, a considerable number of children in the Cloncurry district showed the granulations of trachoma. These schools are visited by the Government Medical Officer at Cloncurry at regular intervals for examinations and treatment. Other areas visited appeared free of trachoma.

While medical examinations were carried out, the Chief Dental Officer examined selected grades to determine the dental needs and the standard of work done by School Dentists. Schools were also inspected from the hygiene aspect.

MEDICAL STUDENTS

Each term, a group of Fifth Year Medical Students attend and observe the function and duties of School Sisters, and School Dental Officers. Their observations and conclusions are presented to the other students, and considerable interest is created with some constructive suggestions being made.

FOURTH YEAR NURSES

The number of Fourth Year Nursing Trainees attending for observation of School Health Services' duties have greatly increased, and have been widespread. At first some indifference was apparent, but now a marked enthusiasm is found both in the metropolitan and country centres. Each Sister in a country district deals with training hospitals in her area, while two Sisters carry out demonstrations and lectures to the trainees from the various metropolitan training hospitals. In Brisbane 179 nurses attended during the past year, and 168 in country centres, a total of 347 nurses.

COMMUNICABLE DISEASES

Immunisations

This year 21,220 questionnaires to parents were checked regarding immunisation; 92.8 per cent. of children had been immunised for diphtheria and 62 per cent. received a booster dose. This may relate to a wider age range with Grade II children being included. This is a marked increase on 1963-64 results (47 per cent.). For tetanus 91 per cent. were immunised, while 58 per cent. received a booster. A total of 18,105 received poliomyelitis inoculation (85 per cent.), but the number of injections received was not recorded. A study since March, 1965, reveals that 34.6 per cent. of six-year-old children have been vaccinated against Smallpox.

TABLE LXXVII
SHOWING INOCULATIONS OF INFANT GRADES

Inoculations	Metro-politan	Country	Total
Number checked	7,269	13,951	21,220
Diphtheria or Triple Antigen ..	6,891	12,681	19,572
Tetanus or Triple Antigen	6,804	12,542	19,346
Booster Diphtheria	5,076	8,129	13,205
Booster Tetanus	5,225	7,119	12,344
Poliomyelitis	6,380	11,725	18,105
Smallpox:			
Number checked	2,674	1,522	4,196
Number vaccinated	542	912	1,454

Good liaison with the Department of Education is maintained. When problems of school hygiene and sanitation are referred, the assistance and co-operation of the Department of Works in meeting these problems is commendable, and is most encouraging to the School Sisters in their work.

MEDICAL EXAMINATIONS OF TEACHER TRAINEES

This year 989 applicants for teachers' college scholarships were examined. A further 178 were examined by other Government Medical Officers in country areas.

Of the 989 examined, 920 have been passed as medically fit, 63 are still under review or awaiting chest X-ray results, and 6 were rejected on medical grounds (severe hearing loss 5, orthopaedic condition 1).

The types and incidence of defects found among the teacher trainees are listed in Table LXXVIII.

TABLE LXXVIII
SHOWING TYPES AND INCIDENCE OF DEFECTS FOUND AMONG
TEACHER TRAINEES

Type	Number		Total	Percentage of Disabilities
	Referred	Not Referred		
“Adjustment ” ..	9	53	62	6.2
Asthma	2	37	39	3.9
Chest .. ..	..	3	3	0.3
Dental Caries ..	110	..	110	11.2
E.N.T. Conditions ..	9	22	31	3.1
Eye Defects	43	218	261	26.4
Genitourinary ..	15	2	17	1.7
Hearing Loss ..	28	4	32	3.2
Heart Murmur ..	2	6	8	0.8
Orthopaedic	15	154	169	17.3
Overweight	2	8	10	1.0
Pigmented Moles ..	23	8	31	3.1
Skin	5	21	26	2.6
Speech Defect (slight)	3	7	10	1.0
Miscellaneous ..	10	44	54	5.4
Totals ..	..	..	863	..

The percentage of eye defects includes all defects and is therefore higher than in 1963-64, when only unsuspected eye defects were quoted. The unsuspected defects comprised 4.3 per cent. of students.

Orthopaedic defects were next in frequency of occurrence, but only 1.5 per cent. needed referral, particularly of moderate to severe scoliosis.

Dental treatment was recommended in 11.2 per cent.

“Adjustment problems” were equally prevalent, but only 9 were referred to the Psychiatric Clinic.

Thirty two students were found to have hearing loss following routine examination of all students with a pure-tone audiometer. Previously the whisper test was used to screen the trainees and the audiometer used only where doubtful results were obtained. Students medically examined elsewhere were included, as in most instances they had not been tested with an audiometer. Owing to the unreliability of the whisper test, it was decided, in November, 1964, to screen all second-year students with an audiometer and also to test visual acuity, before graduation. Of the 919 screened, 10 were found to have severe hearing losses, 8 had unsuspected visual defects, and 9 needed rechecking of their glasses. The results indicated the necessity for having a rigid standard of hearing level for entry to the Teachers’ colleges. Such requirements are found in New South Wales and Victoria, and a scale of standards has been adopted.

All entrants to the Colleges as well as Special University Scholarship Holders, Diploma of Education students, were thus screened and the results are listed in the Table

Routine monthly visits were made to both Colleges through the year, and although this service is essentially an advisory one, 351 students were seen. Most were either reassured or referred to general practitioners, but four second-year trainees were referred to the Psychiatric Clinic.

During the routine medical examinations a number of trainees sought advice about general health matters. It became a matter of concern that many appeared to have little knowledge of the elementary principles of good nutrition. Therefore, a preliminary study of haemoglobin levels in teacher trainees was carried out. Students were selected solely on place of abode and were divided into three groups, those living (a) with parents (61), (b) in a hostel (38), and (c) “flatting” with their peers (37).

The survey was conducted with the interest and co-operation of the Director of the Laboratory of Microbiology and Pathology. Two samples of blood were collected from each student. The results were read by the oxyhaemoglobin method, with a photoelectric colorimeter, and the mean of the two samples taken. All findings were within the normal range.

The mean haemoglobin level in Group (a) was 15 gms%; S.D. ±1.57, Group (b) 15.2 gms%; S.D. ±1.56, Group (c) 15.1 gms%; S.D. ±1.55. There was no significant difference between the groups.

At the request of the Public Service Superannuation Board, some teachers were referred after graduation for reassessment of their medical fitness, especially where their attendance record at College had been poor. Thirty-five teachers were thus referred.

The medical requirements of teacher trainees, in preliminary examinations, current advisory needs, and some subsequent re-examinations, have increased as a logical need. Lectures in health by a Medical Officer or School Sister are overdue.

SCHOOL DENTAL SERVICE

The use of the High Speed Air Rotor units is adding to the efficiency of Dental Officers in their work in the field of service to the pupils of the primary schools. This is reflected in the improvement in the statistics below.

Liaison with the Hospital Dental Clinics gives this State an advantage in covering a larger field of operation in the treatment of the oral conditions existing in our child population. Co-operation with officers of the Dental College in the surveys now being conducted gives an added interest in this aspect of dentistry.

The result of the yearly inspection shows that the ratio of extractions to fillings has improved from 1-1.5 in 1920 to 1-3 in 1964, 1-3.6 in 1965.

The D.M.F. rate, although very helpful, does not give a true picture of the state of the mouths. The extractions have decreased whilst the number of fillings per person has increased.

Findings in the last survey gave in the:

Primary Schools	3.5 D.M.F.
Secondary Schools	10 D.M.F.
Training Colleges	12 D.M.F.

In some instances pupils between the ages of 13-18 years have lost 10 to 18 permanent teeth. Many have lost 10 teeth and naturally sound mouths are practically non-existent in the senior students at the Colleges.

By devoting time principally to the treatment of the young pupils of 5 to 9 years, it is hoped to achieve more satisfactory results than by attending to the whole of the school population, which would mean that Dental Officers would have to allow an interval of 3 to 4 years between visits to the Schools.

TABLE LXXIX
SHOWING DETAILS OF SCHOOL DENTAL EXAMINATIONS

Number of children examined	34,839	
Number of children notified for professional attention	6,538	
Number of children under regular dental care—		
Clinic	1,247	
School Dental Service	11,992	
Private Dentist	11,496	
Number of children with sound mouths—		
Naturally	1,927	5.5%
Operatively restored	7,177	20.3%
Carious permanent teeth (savable)	42,507	
Carious permanent teeth (unsavable)	4,145	
Carious temporary teeth	47,221	
Permanent teeth lost or extracted	11,579	
Six year molars extracted	8,829	
Permanent teeth filled	62,618	
Temporary teeth filled	24,607	
Percentage of children with dirty mouths		9%
Total number of defective permanent teeth	46,652	
Average number of defective permanent teeth per child	1.2	

TABLE LXXX
DENTAL TREATMENTS

Number of schools visited	503
Number of children examined	34,839
Number of children treated	12,065
Number of extractions permanent	1,522
Number of extractions temporary	8,846
Number of fillings	38,035
Number of other treatments	36,136
Number of operations	77,974

DIVISION OF PSYCHIATRIC SERVICES

Director of Psychiatric Services: B. F. R. STAFFORD, M.B., B.S. (Melb.), F.A.N.Z.C.P., A.B.P.S.
 Deputy Director of Psychiatric Services: G. S. URQUHART, M.B., B.S. (Qld.), D.P.M. (Melb.)
 Medical Superintendent, Brisbane Special Hospital: O. E. ORFORD, M.B., B.S., D.P.M.
 Medical Superintendent Toowoomba Special Hospital: J. H. B. HENDERSON, M.B., B.S. (Syd.)
 Medical Superintendent, Ipswich Special Hospital: R. A. ATHERTON, L.R.C.P. (Edin.); L.R.C.S. (Edin.); L.R.F.P.S. (Glasgow)
 Psychiatrist, Psychiatric Clinic: I. W. W. CHARLES, M.B., B.S. (Melb.), D.P.M. (Melb.)
 Visiting Medical Officer, Mosman Hall, Charters Towers: I. CSEREY, M.B., B.S. (Melb.)
 Superintendent, Epileptic Home: K. T. FLYNN
 Administration Officer: A. C. MCALLISTER, B.Com.

The Mental Health Services of this State were administered under "*The Insanity Act of 1884*" for a period of 55 years, until this Act and a small amending Act of 1935 were repealed by the Proclamation of "*The Mental Hygiene Act of 1938*" on 9th December, 1939.

After 24 years "*The Mental Hygiene Act of 1938*" was repealed by "*The Mental Health Act of 1962*." This period of 24 years or so saw some very important advances in the care and treatment of the mentally ill.

In this era two other important legislative enactments came into force, namely "*The Criminal Code Amendment Act of 1945*" and "*The Prisons Acts, 1958 to 1964*." The former Act established by Statute the value of psychiatric reports for pre-sentence consideration, and through procedure greater use has been made of psychiatric examinations by the Courts.

The Prisons Acts are notable, as in conjunction with "*The Mental Health Act of 1962*" the custody and treatment of the mentally ill prisoner is effectively co-ordinated.

"*The Mental Hygiene Act of 1938*" ushered in some years of remarkable therapeutic developments. The Act provided for the admission of voluntary patients and by introducing new nomenclature enabled the institutions to function very much as hospitals as distinct from the previous essential custodial regime. Many of the changes that were somewhat revolutionary at the time of their introduction are now accepted as usual practice.

The advances in the physical treatment of the mentally ill have had tremendous effects. It may suffice just to mention the most important treatments. These commenced with the introduction of the sulphanilamide drugs to be followed by the antibiotic drugs.

These treatments had great success in combating bacterial and virus infections so that the expectancy of life became longer in infancy and in old age.

This has led to problems of accommodation in the care of the aged and in the care of the mentally subnormal.

ADVANCES IN THE CARE OF THE GERIATRIC PATIENT

Several factors have been causal agencies in the reduction in the number of geriatric patients admitted to the special hospitals while the actual number of these persons increased in the community.

Many elderly persons were admitted to the special hospitals for the simple reason there was nowhere else to send the wandering, restless or confused.

A revolutionary policy was introduced, namely the establishment of geriatric facilities in general hospitals and making sure that elderly patients already in the special hospitals as the result of senility had prior right to admission.

The last decade has seen the major effects of this policy during which some 1,784 patients have been admitted to senile annexes or Eventide Homes from the special hospitals.

Appreciation must be extended to the Under Secretary and his administration officers, and the sympathetic co-operation of administrative and professional staffs in the general hospitals played an important role in the success of the policy.

Today most of these special areas for geriatric patients are admitting direct from the community, as well as a few patients from time to time from the special hospitals.

Other factors that have assisted are the assistance given by the Commonwealth and State Governments to convalescent homes and other community facilities for the care of the aged.

During the last decade a specialist geriatric unit was established at the Princess Alexandra Hospital. This unit has given a decided impetus to the move for more active treatment in the later epochs of life.

ADVANCES IN THE CARE AND TREATMENT OF THE MENTALLY SUBNORMAL

The greatly increased survival role among mentally subnormal infant children has been mentioned. This increased survival role caused problems in respect to care and training. The number of infants with nutritional problems grew greater, and the need for their special care more demanding.

To this end in 1962 a treatment centre for the mentally handicapped children was established at Chermside. This is a model facility providing excellent care and treatment.

At the Brisbane Special Hospital the Farm Colony Unit was established for the care and training of school age children. At present there are some 160 children receiving special nursing care, and many of these children are pupils attending classes conducted by seven (7) teachers who have been trained for this work.

Plans are in hand to construct separate school facilities. A building is in the course of construction to provide accommodation and continuing care for the boys who have passed school age, and have developed appreciable potential and independence.

A special teacher has been appointed to the Toowoomba Special Hospital.

At the Ipswich Special Hospital the major advances have been in the provision of better accommodation and facilities for the care of the severely handicapped. Many of these patients have severe mental and physical handicaps.

While these advances have been taking place a remarkable community organisation has evolved—The Queensland Association for the care of the Mentally Subnormal. The work of this association is greatly appreciated and the appreciation is realistic and evident in the financial support the association receives from the Government.

ADVANCES IN THE CARE AND TREATMENT OF THE MENTALLY ILL

The years following the proclamation of "*The Mental Hygiene Act of 1938*" saw epochal advances in the physical and pharmaceutical therapies for the mentally ill patient. These treatments were introduced in the first instance by Cardiazol therapy to be followed by electrotherapy and later Insulin coma therapy. In the past few years these physical treatments have been largely replaced by the use of the so-called "tranquillizing" drugs. These drugs have been developed so that some are now fairly specific in their use to relieve certain symptoms.

The "tranquillizing" group of drugs has played a major role in reducing the number of patients required to be treated in special hospitals. They have been largely responsible for the success of the integration of psychiatric services with general hospital and community services.

These drugs have definitely assisted in a changing attitude towards mental illness. They have introduced an attitude emphasising curability.

Another development in chemotherapy has been the newer anticonvulsant drugs in the treatment of epilepsy. These drugs have superseded the days of the "bromides" which checked the tendency to convulsions but almost invariably in the dosages required retarded intellectual functions. Today the person who is intelligent and suffers from epilepsy leads a normal life. The children attend the ordinary schools. Thirty years ago the Epileptic Home accommodated a number of intellectually bright children who attended the neighbouring Rockville State School. For those whose fits made it impracticable to attend Rockville School the Education Department seconded a teacher to the Home.

Today the patients in the Epileptic Home are persons who are mentally subnormal as well as suffering from epilepsy. Today the epileptic who is not mentally subnormal lives in the community and today a teacher specially trained in this field supervises the "school" in the Epileptic Home. The pupils are below the rating for Opportunity Schools and the Education Department no longer accepts the Home as in the area of its educational responsibilities.

During the past 24 years considerable advances were made in neurosurgery and operative procedures on the brain were introduced in a number of places. In Queensland it was considered that these techniques were not calculated to benefit the florid psychotic or the chronic psychotic and in consequence no leucotomy operations were performed in our mental hospitals. Time has proved the correctness of this policy, although when these operations were "fashionable" Queensland was regarded in some quarters as being therapeutically backward. In the years following the introduction of "*The Mental Hygiene Act of 1938*" several new services were established. These included the Psychiatric Clinic, psychiatric services to Princess Alexandra Hospital, Townsville General Hospital, Toowoomba General Hospital, Ipswich General Hospital and Rockhampton General Hospital. A notable event was the establishment of Lowson House at the Brisbane General Hospital, and later the addition of special facilities for outpatients and day hospital. In association with these services the neuropsychiatric unit was established in the Chermide General Hospital. This unit is a very modern concept and specially designed for the treatment and rehabilitation of patients who require a few weeks or a few months to recover.

A number of important services are more closely associated with the individual special hospitals. These include the Chaplaincy service. It is considered that the establishment of this service was one of the most important advances in a period notable for progress.

Mosman Hall was established at Charters Towers. It provides special hospital services for the Northern region of this State. Mosman Hall at present is caring for some 200 male patients.

The Repatriation Pavilion at Wacol was constructed during the 2nd World War. It has had a definite influence on the standards of accommodation in the special hospitals and in retrospect it can be seen that the management of this facility was in fact paving the way for the introduction of the open-ward policy in the special hospitals.

A decided advance in the social facilities of the special hospital was the development of the Canteen and Beauty Parlours.

The special hospitals have had numerous recreational and sporting facilities provided during the past 20 years or so. These include sports grounds, tennis courts, croquet lawns and bowling greens. These amenities are used as therapeutic measures directed towards the social rehabilitation of the patients.

A most important measure of progress has been a greatly increased professional staff. These include medical practitioners (medical staff 1938—7; medical staff establishment 1965—27), nursing staff and associated professions of clinical psychology, social workers, occupational therapists and visiting specialists. Associated with the expanded professional services have developed such facilities as the dental service, pathology service and X-ray service.

The care and treatment of the mentally ill who also may be suffering from tuberculosis is provided at Gowrie Hall. Gowrie Hall is a specially constructed unit of the Toowoomba Special Hospital. It was built in co-operation with the Commonwealth Government, so that the Commonwealth responsibility is the staff and equipment needed for the investigation and treatment of tuberculosis and the Queensland responsibility is for the care and treatment that the patient's mental illness would require in any case.

Gowrie Hall is an exceptionally good building and is very well equipped to undertake investigations and treatment. It is pleasing to note that very few patients have been found to suffer from tuberculosis and it is not unrealistic to think that this disease may be completely stamped out.

A great deal more space would be required to enumerate the changes effected by building construction and renovations. Two examples may indicate the trends of the past 20 years.

In 1938 all laundry that was ironed was done by the flat hand iron. Now each laundry has modern machinery and nearly every ward has its own laundrette and electric iron.

In 1938 there were no motor vehicles in the special hospital service. At the present time each institution has motor transport and motorised machinery.

Welfare organisations have functioned for many years in providing comfort and diversions for the patients. Recently a number of these organisations affiliated with a central body known as the Queensland Federation of Mental Health.

The value of these organisations is unquestioned. They provide continuing community interest in the welfare of the mentally ill.

A remarkable achievement was the opening of Griffiths House. Griffiths House is located in the city of Ipswich and provides temporary accommodation and security for about six (6) female patients who have recovered from their mental illness but require a place giving the opportunity of gradual adjustment to community life. Credit for the concept of this after-care home belongs to the Queensland Mental Welfare Association. The Association received substantial financial assistance from the Federation of Mental Health and the Queensland Government.

The report for the fiscal year ending on the 30th June, 1964, included graphs which showed a dramatic change in the patient population of the special hospitals. The number of patients daily resident had reduced to numbers comparable with 1940 despite an increasing State population.

The statistics for the fiscal year ending 30th June, 1965, show no significant change from the previous year. It could, therefore, be reasonable to assume that factors which operated to cause a reduction in patient population are still operating and are likely to keep the overall number of patients static for some time.

It would not be prudent to plan extension and reorganisation of services in special hospitals until some stability in the number of patients had been reached.

In consideration of the changes and advances previously mentioned this remarkable effect on the numbers of patients in the special hospitals may be of the greatest importance.

Over the past years the Mental Health Service has been helped by the assistance and sympathy from all sections of the community, from parliamentarians of all parties, from officials in other Departments and it is especially indebted to the loyalty and support of the staff, both past and present, of this Department and its Divisions.

To all, sincere thanks are extended and it is felt that this sympathy and support will be continued in future years. It is felt that this support will gather strength so that the improvements previously enumerated, and other advances for the betterment of the patients, will be translated into reality.

THE SPECIAL HOSPITALS

The Brisbane Special Hospital

The end of the year marked the closing of an epoch of this hospital. The Medical Superintendent, Dr. C. R. Boyce, O.B.E., the Deputy Medical Superintendent, Dr. H. R. G. Barrett, and the Chief Male Nurse, Mr. T. Tronson, retired. These men have given many years to the service of the hospital in their respective posts, and tributes were paid to them by the many organisations associated with the hospital.

On the 5th August, Mr. J. J. Fitzgerald took over the important post of Managing Secretary of the Hospital.

There has been a progressive development of the open-door policy. Female Ward 11 has continued to function as an Open Female Admission Ward throughout the year. This hospital admits all patients and the open-door policy has necessitated the designation of special security areas.

Special schooling facilities for subnormal children have progressed, and there are now eight teachers. The building of the Rural Training Centre for Adult Subnormals has continued. The Department of Works has vigorously prosecuted a programme of repainting and renovation, which has been much appreciated by the patients.

On 20th March, the Minister opened the first Rehabilitation Hostel in Queensland for the re-settlement of those who have been discharged. This was primarily the work of the Queensland Mental Welfare Association, but the Mental Health Federation and the Department of Health ensured the successful outcome of their efforts. The hostel accepts discharged patients from any psychiatric area.

The rehabilitation of the patients within the hospital, particularly from a social point of view, has been the target of the whole staff of the hospital. The usual excursions and picnics for the various wards have been continued. The Fancy Dress Ball was said to have been one of the most colourful and successful ever conducted. Parties of patients attended the Royal National Exhibition and many concerts and ward parties have been arranged both by the occupational therapy staff and individual ward staffs. An event which has not been held over recent years was reintroduced this year. This was the Annual Sports Day organised by the hospital staff, and supported by the voluntary organisations and the Department.

Community bodies too numerous to mention individually have provided socials, concert parties, sporting events, and dinners, and, although not mentioned individually, this work is invaluable in the furtherance of the Department's policy of bringing the community closer to the hospital.

Toowoomba Special Hospital

A unique situation exists at the Toowoomba Special Hospital. The Medical Superintendent has established a status in the community and developed such an atmosphere in his hospital that informal patients readily consent to admission to the hospital. This has resulted in congestion of the admission centre of the hospital. This emphasises the urgency of developing psychiatric accommodation in the Toowoomba General Hospital.

The difficulty in obtaining a fifth medical officer has created some problems in the management of an average of over four hundred admissions together with a large and ever increasing number of outpatients both at this hospital and at the Toowoomba General Hospital.

The total number of admissions for the year was 426, two less than for the preceding year, whilst the percentage of informal admissions remains virtually the same, viz., 75 per cent. The increased number of patients seen and treated at the Toowoomba General Hospital must have some bearing on the reduced number of admissions. However, Female Ward 6, the main admission ward, always remains full.

The number of patients receiving chest investigation or treatment in Gowrie Hall has once again risen to approaching full capacity due mainly to transfers from Brisbane and Ipswich Special Hospitals and Mosman Hall. The majority of these patients have been admitted for investigation, some for treatment and very few have been admitted suffering from actual open clinical tuberculosis.

All wards are continually being improved by interior painting, the addition of furniture (small articles being made in our own woodwork room) and by the provision of attractive curtains and bedspreads.

During the year the artisans' block and carpenters' storage shed were repositioned to provide space for the new laundry but the anticipated preparation of the site did not eventuate. However, work has progressed rapidly on the alterations and improvements to the hospital ward and it is anticipated it will be ready for occupation by Christmas. In the meantime male hospital patients are being nursed in Ward D, and the female patients in Ward 5.

New floors have been laid in Ward C dining room and in the recreation hall where also the old wooden chairs have been replaced by comfortable stack-a-bye units. Fluorescent lighting has been installed in the recreation hall and a new stage curtain made in the sewing room.

Patients frocks that are made in the sewing room are now much more attractive and colourful and no longer does the average female patient wear a drab piece of apparel. However, there is still considerable room for improvement in male attire and it is felt much benefit would follow the installation of a dry cleaning department in the new laundry. Ward gardens have been extended and improved and there have been more tree plantings in the grounds. Both patients and staff are very interested in the gardens, particularly during the annual garden competitions. The grounds are now better illuminated at night by the replacement of the old lighting system with more numerous fluorescent lights on concrete pillars.

Two small shelter sheds have been erected at the Oval. These serve for refreshment centres on sports days. As usual, the Annual Sports Carnival for the patients was very popular; so also was the Annual Fancy Dress Ball, many extremely original costumes being worn by the patients, most being made in the sewing room or in the wards.

Ipswich Special Hospital

Clinically the activities of this hospital have been concerned with the psychiatric service to the Ipswich General Hospital, the difficult and responsible work in connection with Part IV patients, i.e., those associated with criminal proceedings, and the care of a number of very young severely mentally subnormal patients. It is hoped that in the future an occupational therapist and a special teacher for the subnormal children will be available. The occupational therapist, in addition to organising this activity in the adult wards, can give valuable assistance in the assessment of the potential of patients. The special teacher is important in commencing the organised training of the pre-school child so that in the event of the child attaining a standard suitable for the Farm Colony School at Brisbane Special Hospital the time at Ipswich will have made the entry into this school easier.

Improved conditions for both patients and staff have resulted from many works completed at the hospital during the year. Heating was provided in the bathing and dressing areas of Female Wards 1, 3 and 4, and Male Wards 1, 2 and 3. The hot water boiler in Male Ward 3 is now oil fired. Wall fans and heaters were installed in the dining room of Male Ward 1.

Staff rooms are being erected in Female Wards 1, 3 and 4 and will be suitably furnished. An amenities block with suitable furnishings and conveniences will be erected adjacent to the general laundry for the use of laundry staff. In addition, further items of laundry equipment have been installed in the laundry itself.

Replacement of the old wooden fence with tubular steel and chain wire has added to the general appearance of the approach to the hospital. Similar fencing has been carried out around "A" and "B" yards in Male Wards 1 and 2, and an alternative area for patients' use has been provided on the southern side of Male Ward 3. Attention has been given to the ground surface of the play pen area. Lighting installed in three garages will facilitate work on the hospital's transport fleet. Lighting has also been improved outside matron's office. The fire hazard at the hospital has been reduced by the conversion of an old fumigation shed to an inflammable goods store.

Thanks are extended to many agencies for the provision of patients' entertainment. In addition to many functions during the year, special efforts were made at Christmas, Anzac Day and during the annual Ipswich and West Moreton Show.

Mosman Hall, Charters Towers

This northern hospital continues to serve the special hospital needs of the north for male patients. Of the 125 patients admitted, 121 of these came from northern and north-western districts. This hospital is providing treatment for acute and chronic alcoholism and one-third of the admissions to this hospital are for this purpose. The number of admissions and discharges continued to increase as did the daily average number of patients resident. The highest number in hospital on any one day was 222, and the lowest 203. Informal admissions (56) represent 44.8 per cent. of the total admissions for the year. This compares with 40.7 per cent. in 1963-64 and 36.4 per cent. in 1962-63. Throughout the year we have had the services of two visiting medical officers, thus it has been possible to offer all forms of treatment for the mentally ill.

The buildings are well maintained and a contract has been let for the repainting of those buildings that require it. The beautification of the grounds has continued and in particular setting of lawns at the rear of the administration building has improved greatly the appearance of the hospital.

Sincere thanks are due to the various parties who freely give of their time and energy to provide concert parties and other entertainment for the patients.

Epileptic Home, Willowburn

The character of the home has gradually been changing over the past years. Patients now presenting for admission have a degree of mental disability in association with their epileptic condition. During this year the school provided by the Education Department has been closed. At present there are only six patients under the age of 16 years in residence at the Home. It can be seen that although the need for formal education has diminished with the changing nature of the Home there remains a need for special teaching of those with mental disabilities. The closure of the school has coincided with the retirement of the school teacher, Miss Dorothy King. The results of her almost 30 years' devoted service are reflected in the contentment and well-being of the

large number of current patients who are her past pupils. The school room and facilities are now being used by Mrs. D. Finney, a qualified teacher of subnormal children, so that the educational service is being maintained at a very high standard and is meeting the needs of the changing character of the Home.

Psychiatric Clinic

This year has shown an increase in the overall number of patients treated and in the number of consultations conducted by all our professional workers. This is largely due to the fact that our speech therapy staff and social worker staff have been increased. Queensland University is now providing a full course in speech therapy and our full-time speech therapist is a Queensland graduate.

A very important development is the night clinic which is held once per week. Patients attending this clinic are specially selected because attendance at the clinic during

working hours would jeopardise their employment or social adjustment. The demand for such a service is growing and its achievement in keeping patients actively productive warrants the fostering of this particular service.

The increasing complexity of the Clinic's work has resulted in a clearer definition of goals. The forensic service has become increasingly demanding because of referrals from the Public Defender in addition to the usual Court work. Patients on probation requiring clinic services have increased in number. Participation in the Classification Committee of the Prisons Service has had to be curtailed because of pressure of other work. After-care services have extended from medical consultation to full community care. Out-patient treatment services are being particularly designed to prevent admission to special hospitals. Teaching facilities for undergraduate and post-graduate professional workers have been extended and consultative services to other professional workers have been provided.

TABLE LXXXI
PATIENT POPULATION

	Patients Resident at 30th June, 1964			Patients Resident at 30th June, 1965		
	Females	Males	Total	Females	Males	Total
Brisbane Special Hospital	675	1,074	1,749	709	1,044	1,753
Toowoomba Special Hospital	451	576	1,027	447	568	1,015
Ipswich Special Hospital	312	306	618	327	306	633
Mosman Hall, Charters Towers .. .. .	..	211	211	..	218	218
Totals	1,438	2,167	3,605	1,483	2,136	3,619

TABLE LXXXII
QUEENSLAND SPECIAL HOSPITALS
SHOWING ADMISSIONS, RE-ADMISSIONS, DISCHARGES AND DEATHS DURING THE YEAR ENDED 30TH JUNE, 1965

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals	
	Males	Females	Totals	Males	Females	Totals	Males	Females	Totals		Males	Females
On the Books of the Hospital on 1st July, 1964	1,166	784	1,950	597	497	1,094	311	317	628	226	2,300	1,598
Admitted for the first time—												
Informal admissions	88	46	134	77	99	176	15	25	40	47	227	170
Regulated admissions (Sections 18, 19 and 22)	185	181	366	21	11	32	2	2	4	10	218	194
Admissions under Hospital Orders	53	31	84	9	4	13	..	..	..	52	114	35
Part IV admissions	..	2	2	..	..	..	10	..	10	1	11	2
Re-admitted—												
Informal admissions	94	135	229	66	88	154	1	1	2	9	170	224
Regulated admissions (Sections 18, 19 and 22)	130	128	258	19	27	46	..	..	..	..	149	155
Admissions under Hospital Orders	30	56	86	5	..	5	..	..	..	6	41	56
Part IV admissions	..	1	1	..	..	..	2	..	2	..	2	1
Total Admissions	580	580	1,160	197	229	426	30	28	58	125	932	837
Totals on Books and Admissions—All Hospitals	1,746	1,364	3,110	794	726	1,520	341	345	686	351	3,232	2,435
Transferred from Brisbane Special Hospital	..	..	..	17	9	26	..	1	1	12	29	10
Transferred from Toowoomba Special Hospital	8	2	10	..	..	..	1	1	2	1	10	3
Transferred from Ipswich Special Hospital	3	..	3	1	..	1	..	..	..	..	4	..
Transferred from Mosman Hall Special Hospital	..	..	..	11	..	11	1	..	1	..	12	..
Transferred from Public Hospitals..	5	2	7	..	..	..	..	..	..	1	6	2
*Total number under care during the year	1,762	1,368	3,140	823	735	1,558	343	347	690	365	3,293	2,450
Discharged—												
Recovered	12	16	28	16	4	20	10	2	12	..	38	22
Relieved	245	227	472	51	44	95	2	2	4	59	357	273
Not Improved	34	7	41	5	10	15	4	..	4	3	46	17
Informal patients	217	195	412	116	176	292	..	..	..	51	384	371
Total Discharges	508	445	953	188	234	422	16	4	20	113	825	683
Died	78	76	154	42	17	59	17	11	28	8	145	104
Total Number Discharged and Died	586	521	1,107	230	251	481	33	15	48	121	970	787
Transferred to Brisbane Special Hospital	..	..	..	8	2	10	3	..	3	..	11	2
Transferred to Toowoomba Special Hospital	17	9	26	..	..	..	1	..	1	11	29	9
Transferred to Ipswich Special Hospital	..	1	1	1	1	2	..	..	..	1	2	2
Transferred to Mosman Hall Special Hospital	12	..	12	1	..	1	..	..	..	..	13	..
Total number discharged, died, &c., during year	615	531	1,146	240	254	494	37	15	52	133	1,025	800
Remaining on Books of Hospitals on 30th June, 1965	1,147	837	1,984	583	481	1,064	306	332	638	232	2,268	1,650
Average Number Daily Resident	1,028	692	1,720	559	459	1,018	301	317	618	212	2,100	1,468
Number on leave of absence on 30th June, 1965	103	128	231	15	34	49	..	5	5	14	132	167
Proportion of number of patients remaining on books to each 1,000 of population as at 30th June, 1965	..	..	..	..	..	..	..	..	..	..	2.77	2.08
Proportion of Admissions per 10,000 of population for year ended 30th June, 1965	..	..	..	..	..	..	..	..	..	..	11.39	10.55

* These totals include interhospital transfers.

TABLE LXXXIII
ADMISSIONS, DISCHARGES, AND DEATHS, WITH THE PROPORTIONS OF RECOVERIES AND DEATHS PER CENT. DURING THE YEAR ENDED 30TH JUNE, 1965

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Females	Totals	Males	Females	Totals	Males	Females	Totals	Males	Males	Females	Totals
Total Admissions ..	580	580	1,160	197	229	426	30	28	58	125	932	837	1,769
*Discharged—													
Recovered ..	14	16	30	53	61	114	10	2	12	..	77	79	156
Relieved ..	408	405	813	102	142	244	2	2	4	110	622	549	1,171
Not Improved ..	86	24	110	33	31	64	4	..	4	3	126	55	181
Died	78	76	154	42	17	59	17	11	28	8	145	104	249
Average Number Daily Resident	1,028	692	1,720	559	459	1,018	301	317	618	212	2,100	1,468	3,568
Percentage of Recoveries on Admissions ..	2.41	2.75	2.58	26.9	26.64	26.78	33.33	7.14	20.69	..	8.26	9.45	8.82
Percentage of Patients Relieved on Admissions	70.34	69.82	70.08	51.78	62.01	57.28	6.66	7.14	6.9	88	66.74	65.58	66.2
Percentage of Deaths on Average Number Resident	7.58	10.98	8.95	7.51	3.7	5.79	5.65	3.47	4.53	3.78	6.9	7.08	7.0

* Informal patients have been included in this Table.

TABLE LXXIV
BODILY HEALTH AND CONDITION OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1965

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Males	Fe-males	Totals
In apparently good health and condition	320	379	699	134	167	301	23	24	47	68	545	570	1,115
In indifferent health and reduced condition	219	185	404	52	56	108	7	3	10	50	328	244	572
In bad health and exhausted condition	41	16	57	11	6	17	..	1	1	7	59	23	82
Totals	580	580	1,160	197	229	426	30	28	58	125	932	837	1,769

TABLE LXXXV

FORMS OF MENTAL DISORDERS IN PATIENTS ADMITTED DURING THE TWELVE MONTHS ENDED 30TH JUNE, 1965

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall Charters Towers	Totals		
	Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total	Males	Males	Fe-males	Totals
300 Schizophrenic disorders—													
300-0 Simple type	32	87	119	7	14	21	1	..	1	41	81	101	182
300-1 Hebephrenic type	57	47	104	36	20	56	..	..	..	..	93	67	160
300-2 Catatonic type .. .. .	..	7	7	2	..	2	..	..	..	1	3	7	10
300-3 Paranoid type	59	75	134	4	7	11	2	..	2	12	77	82	159
300-4 Acute schizophrenic reaction	1	4	5	..	..	..	..	..	..	..	1	4	5
300-5 Latent schizophrenia	3	..	3	..	..	..	..	..	..	..	3	..	3
300-6 Schizo-affective psychosis	4	9	13	1	2	3	..	..	..	..	5	11	16
300-7 Other and unspecified	14	13	27	..	..	..	..	..	..	..	14	13	27
301 Manic-depressive reaction—													
301-0 Manic and circular	10	6	16	20	30	50	..	..	..	2	32	36	68
301-1 Depressive	3	17	20	20	64	84	1	..	1	5	29	81	110
301-2 Other	1	2	3	1	2	3	..	..	..	..	2	4	6
302 Involutional melancholia	2	3	5	..	4	4	..	..	..	..	2	7	9
303 Paranoia and paranoid states	8	3	11	3	..	3	..	..	..	..	11	3	14
304 Senile psychosis	33	48	81	8	7	15	2	2	4	6	49	57	106
305 Presenile psychosis	2	5	7	..	..	..	..	..	..	..	2	5	7
306 Psychosis with cerebral arteriosclerosis	28	9	37	1	..	1	1	..	1	4	34	9	43
307 Alcoholic psychosis	33	10	43	9	1	10	..	..	..	2	44	11	55
308 Psychosis of other demonstrable etiology—													
308-0 Resulting from brain tumour	2	..	2	1	2	3	..	..	..	..	3	2	5
308-1 Resulting from epilepsy and other convulsive disorders	2	4	6	..	..	..	..	..	..	..	2	4	6
308-2 Other mental deterioration due to trauma	9	4	13	..	..	..	..	..	..	..	9	4	13
309 Other and unspecified psychosis	4	4	8	5	2	7	..	..	..	..	9	6	15
310 Anxiety reaction without mention of somatic symptoms	16	15	31	9	19	28	..	..	..	..	25	34	59
311 Hysterical reaction without mention of anxiety reaction	1	12	13	..	1	1	..	..	..	..	1	13	14
312 Phobic reaction .. .. .	..	1	1	..	..	..	..	..	..	..	..	1	1
313 Obsessive-compulsive reaction	2	2	4	..	1	1	..	..	..	..	2	3	5
314 Neurotic-depressive reaction	17	39	56	5	14	19	..	..	..	4	26	53	79
315 Psychoneurosis with somatic symptoms affecting circulatory system .. .. .	..	3	3	..	..	..	..	..	..	..	..	3	3
316 Psychoneurosis with somatic symptoms affecting digestive system—													
316-0 Mucous colitis specified as of psychogenic origin	1	..	1	..	..	..	..	..	..	..	1	..	1
316-2 Gastric neurosis	1	..	1	..	..	..	..	..	..	..	1	..	1
316-3 Other digestive manifestations .. .. .	..	1	1	..	..	..	..	..	..	..	..	1	1
317 Psychoneurosis with somatic symptoms—													
317-1 Psychogenic reactions affecting genito-urinary system .. .. .	..	1	1	..	..	..	..	..	..	..	..	1	1
317-5 Psychogenic reactions affecting other systems	1	..	1	1	..	1	..	..	..	..	2	..	2
318 Psychoneurotic disorders, other, mixed, unspecified—													
318-0 Hypochondriacal reaction .. .. .	..	3	3	..	1	1	..	..	..	..	..	4	4
318-4 Mixed psychoneurotic disorders	1	3	4	..	..	..	..	..	..	..	1	3	4
318-5 Other and unspecified types .. .. .	..	..	..	..	1	1	..	..	..	..	..	1	1
320 Pathological personality—													
320-0 Schizoid personality	3	..	3	..	1	1	..	..	..	..	3	1	4
320-3 Inadequate personality	5	8	13	..	..	..	..	..	..	..	5	8	13
320-4 Anti-social personality	8	4	12	..	..	..	..	..	..	..	8	4	12
320-5 Asocial personality	3	1	4	4	..	4	..	..	..	..	7	1	8
321 Immature personality—													
321-0 Emotional instability .. .. .	..	4	4	1	3	4	..	..	..	..	1	7	8
321-1 Passive dependency .. .. .	..	1	1	..	..	..	..	..	..	..	..	1	1
321-2 Aggressiveness	1	1	2	..	..	..	..	..	..	..	1	1	2
321-5 Other and unspecified .. .. .	..	1	1	1	1	2	..	..	..	..	1	2	3
322 Alcoholism—													
322-0 Acute	3	1	4	4	5	9	..	..	..	25	32	6	38
322-1 Chronic	113	39	152	32	3	35	..	..	..	17	162	42	204
322-2 Unspecified .. .. .	..	..	..	5	..	5	..	..	..	..	5	..	5
323 Other drug addiction	10	17	27	..	..	..	..	..	..	..	10	17	27
324 Primary childhood behaviour disorders .. .. .	..	2	2	..	7	7	..	..	..	..	..	9	9
325 Mental deficiency—													
325-0 Idiocy	5	2	7	..	..	..	4	9	13	..	9	11	20
325-1 Imbecility	15	10	25	2	..	2	9	13	22	..	26	23	49
325-2 Moron	14	12	26	7	7	14	3	3	6	1	25	22	47
325-3 Borderline intelligence	11	7	18	3	3	6	..	..	..	..	14	10	24
325-4 Mongolism	7	..	7	..	1	1	2	1	3	..	9	2	11
325-5 Other and unspecified types	3	..	3	..	2	2	1	..	1	..	4	2	6
326 Other and unspecified character, behaviour and intelligence disorders—													
326-4 Other and unspecified .. .. .	..	6	6	..	..	..	..	..	..	..	..	6	6
332 Cerebral embolism and thrombosis	1	..	1	..	..	..	..	..	..	..	1	..	1
345 Multiple sclerosis	1	..	1	..	..	..	..	..	..	..	1	..	1
353 Epilepsy—													
353-0 Petit mal	1	1	2	..	..	..	..	..	..	..	1	1	2
353-1 Grand mal	6	12	18	..	..	..	..	..	..	1	7	12	19
353-3 Other and unspecified	2	1	3	2	1	3	1	..	1	4	9	2	11
355 Other diseases of the brain	5	2	7	1	..	1	1	..	1	..	7	2	9
752 Congenital hydrocephalus .. .. .	..	..	..	..	..	..	2	..	2	..	2	..	2
753 Other congenital malformations of nervous system and sense organs	1	..	1	..	..	..	..	..	..	..	1	..	1
760 Birth injury	1	..	1	..	..	..	..	..	..	..	1	..	1
780 Certain symptoms referable to nervous system and special senses—													
780-3 Jacksonian epilepsy	5	..	5	..	..	..	..	..	..	..	5	..	5
794 Senility without mention of psychosis	5	8	13	2	2	4	..	..	..	..	7	10	17
026 Neurosyphilis	2	..	2	..	..	..	..	..	..	..	2	..	2
025 Neurosyphilis with paresis	1	..	1	..	..	..	..	..	..	..	1	..	1
083 Late effects of acute infectious encephalitis	1	..	1	..	..	..	..	..	..	..	1	..	1
Not diagnosed .. .. .	..	3	3	..	1	1	..	..	..	..	..	4	4
Totals	580	580	1,160	197	229	426	30	28	58	125	932	837	1,769

TABLE LXXXVI
CAUSES OF DEATHS WHICH OCCURRED DURING YEAR ENDED 30TH JUNE, 1965

Statistical Classification	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall Charters Towers	Totals		
	Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total	Males	Males	Fe-males	Totals
<i>Infective and parasitic diseases—</i>													
002 Pulmonary tuberculosis .. ..	..	..	..	..	..	..	..	..	..	1	1	..	1
096 Other diseases attributable to viruses ..	..	1	1	..	..	..	..	..	..	..	..	1	1
<i>Neoplasms—</i>													
148 Malignant neoplasm of pharynx unspecified ..	..	..	..	..	..	..	1	..	1	..	1	..	1
157 Malignant neoplasm of pancreas .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
162 Malignant neoplasm of bronchus and trachea and of lung specified as primary:—													
(b) Malignant neoplasm of lungs specified as primary	1	..	1	..	..	..	..	..	..	..	1	..	1
163 Malignant neoplasm of lung, unspecified as to whether primary or secondary .. ..	..	..	..	..	..	..	1	..	1	..	1	..	1
165 Malignant neoplasm of thoracic organs (secondary)	1	..	1	..	..	..	..	..	..	..	1	..	1
170 Malignant neoplasm of breast .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
171 Malignant neoplasm of cervix uteri .. ..	..	..	..	..	..	..	..	1	1	..	..	1	1
176 Malignant neoplasm of other and unspecified female genital organs .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
<i>Diseases of the blood and blood forming organs—</i>													
299 Other diseases of blood and blood forming organs .. ..	..	..	..	..	..	..	..	1	1	..	..	1	1
<i>Mental, psychoneurotic and personality disorders—</i>													
322 Alcoholism .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
325 Mental deficiency .. ..	..	..	..	1	..	1	..	..	..	..	1	..	1
<i>Diseases of the nervous system and sense organs—</i>													
330 Subarachnoid haemorrhage .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
331 Cerebral haemorrhage	1	1	2	1	..	1	..	..	..	..	2	1	3
332 Cerebral embolism and thrombosis	3	2	5	1	..	1	1	2	3	..	5	4	9
333 Spasm of cerebral arteries .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
344 Late effects of intracranial abscess or pyogenic infection .. ..	..	..	..	..	..	..	1	..	1	..	1	..	1
345 Multiple sclerosis	1	..	1	1	..	1	..	..	..	..	2	..	2
353 Epilepsy	1	1	2	..	..	..	..	..	..	..	1	1	2
355 Other diseases of the brain .. ..	..	2	2	..	..	..	2	..	2	..	2	2	4
<i>Diseases of the circulatory system—</i>													
402 Chorea .. ..	..	..	..	1	..	1	..	..	..	..	1	..	1
420 (a) Arteriosclerotic heart disease so described ..	3	4	7	..	..	..	..	..	..	..	3	4	7
(b) Heart disease specified as involving coronary arteries	8	4	12	..	..	..	2	2	4	1	11	6	17
421 Chronic endocarditis not specified as rheumatic .. ..	..	..	..	..	..	..	1	..	1	..	1	..	1
422 Other myocardial degeneration .. ..	..	4	4	5	2	7	..	..	..	1	6	6	12
(a) Fatty degeneration .. ..	..	..	..	3	1	4	..	..	..	..	3	1	4
(b) With arteriosclerosis	4	1	5	2	..	2	..	..	..	..	6	1	7
430 Acute and sub-acute endocarditis	1	..	1	4	..	4	..	..	..	..	5	..	5
433 Functional diseases of the heart—													
(a) Without mention of arteriosclerosis ..	1	..	1	..	..	..	..	..	..	..	1	..	1
(b) With mention of arteriosclerosis	1	1	2	..	..	..	..	..	..	..	1	1	2
434 Other and unspecified diseases of heart ..	1	1	2	2	..	2	..	..	..	1	4	1	5
440 Essential benign hypertensive heart disease ..	..	..	..	..	3	3	..	..	..	..	..	3	3
441 Essential malignant hypertensive heart disease ..	1	..	1	..	..	..	..	..	..	..	1	..	1
442 Hypertensive heart disease with arteriolar nephrosclerosis .. ..	..	..	..	..	..	..	..	1	1	..	..	1	1
445 Essential malignant hypertension	1	..	1	..	..	..	..	..	..	..	1	..	1
450 General arteriosclerosis	2	1	3	2	1	3	..	..	..	..	4	2	6
454 Arterial embolism and thrombosis	1	..	1	6	2	8	..	..	..	..	7	2	9
464 Phlebitis and thrombophlebitis of other sites ..	..	2	2	..	..	..	..	..	..	..	..	2	2
<i>Diseases of the respiratory system—</i>													
475 Acute upper respiratory infection of multiple or unspecified sites	1	..	1	..	..	..	..	..	..	..	1	..	1
480 Influenza with pneumonia .. ..	..	2	2	..	..	..	..	..	..	..	..	2	2
490 Lobar pneumonia	2	7	9	..	..	..	1	1	2	..	3	8	11
491 Bronchopneumonia	21	12	33	12	7	19	1	1	2	..	34	20	54
492 Primary atypical pneumonia .. ..	..	..	..	..	..	..	..	1	1	..	..	1	1
493 Pneumonia, other and unspecified	5	17	22	..	..	..	..	..	..	3	8	17	25
502 Chronic bronchitis (including emphysematous bronchitis)—													
(a) Without mention of asthma	1	..	1	..	..	..	..	..	..	..	1	..	1
517 Other diseases of upper respiratory tract ..	1	..	1	..	..	..	1	..	1	..	2	..	2
522 Pulmonary congestion and hypostasis ..	1	..	1	..	..	..	..	..	..	..	1	..	1
527 Other diseases of lung and pleural cavity (including emphysema without mention of bronchitis)	1	1	2	..	..	..	..	..	..	..	1	1	2
<i>Diseases of the digestive system—</i>													
545 Other diseases of stomach and duodenum ..	1	..	1	..	..	..	..	..	..	..	1	..	1
576 Peritonitis	1	1	2	..	..	..	..	..	..	1	2	1	3
583 Other diseases of liver .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
<i>Diseases of the genito-urinary system—</i>													
592 Chronic Nephritis	1	..	1	..	..	..	..	..	..	..	1	..	1
600 Infections of kidney .. ..	..	..	..	..	1	1	..	..	..	..	..	1	1
<i>Congenital malformations—</i>													
752 Congenital hydrocephalus .. ..	..	..	..	..	..	..	1	..	1	..	1	..	1
759 Other and unspecified congenital malformations not elsewhere classified .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
<i>Symptoms, senility and ill-defined conditions—</i>													
782 Symptoms referable to cardiovascular and lymphatic system	4	..	4	..	..	..	2	1	3	..	6	1	7
794 Senility without mention of psychosis ..	1	..	1	..	..	..	..	..	..	..	1	..	1
<i>Accidents, poisoning and violence—</i>													
871 Accidental poisoning by barbituric acid and derivatives .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
888 Accidental poisoning by other and unspecified solid and liquid substances .. ..	..	1	1	..	..	..	..	..	..	..	..	1	1
904 Unspecified falls .. ..	..	..	..	..	..	..	1	..	1	..	1	..	1
921 Inhalation and ingestion of food causing obstruction or suffocation	1	1	2	..	..	..	1	..	1	..	2	1	3
922 Inhalation and ingestion of other object causing obstruction or suffocation	1	..	1	..	..	..	..	..	..	..	1	..	1
929 Accidental drowning and submersion ..	1	..	1	..	..	..	..	..	..	..	1	..	1
933 Hunger, thirst and exposure	1	..	1	..	..	..	..	..	..	..	1	..	1
974 Suicide and self-inflicted injury by hanging and strangulation	1	..	1	..	..	..	..	..	..	..	1	..	1
Unknown—awaiting Government Analyst's Report .. ..	..	..	..	1	..	1	..	..	..	..	1	..	1
Totals	78	76	154	42	17	59	17	11	28	8	145	104	249

TABLE LXXXVII
BIRTH PLACES OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1965

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Males	Fe-males	Totals
Queensland	314	380	694	127	171	298	22	27	49	69	532	578	1,110
Other Australian States—													
New South Wales	75	78	153	27	29	56	3	1	4	12	117	108	225
Victoria	16	21	37	8	6	14	1	..	1	5	30	27	57
South Australia	9	6	15	4	..	4	..	..	..	1	14	6	20
Western Australia	2	1	3	..	..	..	1	..	1	2	5	1	6
Tasmania	5	1	6	1	..	1	..	..	..	..	6	1	7
Northern Territory .. .. .	..	2	2	..	..	..	..	..	..	1	1	2	3
Total Australia	421	489	910	167	206	373	27	28	55	90	705	723	1,428
New Zealand	5	4	9	1	1	2	..	..	..	1	7	5	12
Pacific Islands and New Guinea .. .. .	..	..	..	..	..	..	1	..	1	..	1	..	1
Great Britain and Ireland	47	40	87	12	9	21	..	..	..	6	65	49	114
Europe (other)	46	34	80	12	6	18	2	..	2	25	85	40	125
Asia—													
China .. .. .	..	1	1	..	..	..	..	..	..	..	..	1	1
India, Pakistan, Ceylon	1	1	2	..	..	..	..	..	..	..	1	1	2
Indonesia	5	..	5	..	1	1	..	..	..	1	6	1	7
Other	1	..	1	..	..	..	..	..	..	..	1	..	1
North America	1	..	1	..	1	1	..	..	..	..	1	1	2
Africa	1	..	1	..	..	..	..	..	..	2	3	..	3
Unknown	52	11	63	5	5	10	..	..	..	..	57	16	73
Totals	580	580	1,160	197	229	426	30	28	58	125	932	837	1,769

TABLE LXXXVIII
DISTRICTS WHENCE PATIENTS WERE RECEIVED DURING THE YEAR ENDED 30TH JUNE, 1965

	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Males	Fe-males	Totals
Northern and North-Western	8	30	38	..	..	..	6	5	11	121	135	35	170
Central	30	9	39	..	..	..	4	4	8	1	35	13	48
Southern and South-Western	542	541	1,083	197	229	426	20	19	39	3	762	789	1,551
Totals	580	580	1,160	197	229	426	30	28	58	125	932	837	1,769

TABLE LXXXIX
GENERAL CLASSIFICATION OF OCCUPATIONS OF PATIENTS ADMITTED DURING THE YEAR ENDED 30TH JUNE, 1965

Occupations	Brisbane Special Hospital			Toowoomba Special Hospital			Ipswich Special Hospital			Mosman Hall, Charters Towers	Totals		
	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Fe-males	Totals	Males	Males	Fe-males	Totals
Rural Industries	15	..	15	23	..	23	2	..	2	31	71	..	71
Secondary Industries, Trades, &c.—													
Building Construction	24	..	24	47	..	47	..	..	..	4	75	..	75
Machinery and Electrical	31	..	31	8	..	8	..	..	..	14	53	..	53
Foodstuffs, Meat, &c.	15	4	19	7	..	7	1	..	1	1	24	4	28
Clothing, Retail, &c.	14	1	15	..	..	..	1	..	1	..	15	1	16
Mining	2	..	2	..	..	..	1	..	1	2	5	..	5
Transport	9	..	9	8	..	8	1	..	1	6	24	..	24
Clerical	17	17	34	7	4	11	..	..	..	..	24	21	45
Domestic Employment	1	333	334	..	178	178	..	..	..	..	1	511	512
Private Employment .. .. .	..	..	..	9	1	10	..	..	..	..	9	1	10
Miscellaneous Employment	162	12	174	10	2	12	2	..	2	44	218	14	232
No Occupation, and Pensioners	244	193	437	62	26	88	4	1	5	21	331	220	551
Professions	14	17	31	7	9	16	..	..	..	..	21	26	47
Children	32	3	35	7	8	15	18	27	45	1	58	38	96
Unknown .. .. .	..	..	..	2	1	3	..	..	..	1	3	1	4
Totals	580	580	1,160	197	229	426	30	28	58	125	922	837	1,769

TABLE XC

AGE GROUPS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES OR DEATHS OCCURRED DURING THE YEAR AND THOSE WHO REMAINED ON BOOKS OF HOSPITAL ON 30TH JUNE, 1965

BRISBANE SPECIAL HOSPITAL

Age Group					Admissions			Discharges*						Deaths			Remaining		
								Recovered			Relieved and Not Improved								
					M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.	M.	F.	T.
5 years and under 10 years	..	..	..	11	..	11	..	..	..	6	..	6	..	1	1	27	18	45
10 years and under 15 years	..	..	..	17	5	22	..	..	..	12	2	14	1	1	2	61	35	96
15 years and under 20 years	..	..	..	25	38	63	..	..	..	17	32	49	1	..	1	72	57	129
20 years and under 25 years	..	..	..	45	37	82	3	1	4	40	26	66	2	1	3	71	47	118
25 years and under 30 years	..	..	..	35	35	70	1	2	3	29	31	60	1	1	2	59	33	92
30 years and under 35 years	..	..	..	53	55	108	..	..	..	55	44	99	2	1	3	73	46	119
35 years and under 40 years	..	..	..	54	63	117	..	2	2	45	47	92	1	2	3	100	66	166
40 years and under 45 years	..	..	..	66	80	146	3	5	8	74	56	130	2	5	7	117	106	223
45 years and under 50 years	..	..	..	67	55	122	3	1	4	62	43	105	5	7	12	142	98	240
50 years and under 55 years	..	..	..	53	58	111	1	2	3	47	49	96	2	4	6	108	81	189
55 years and under 60 years	..	..	..	41	46	87	1	2	3	27	28	55	12	9	21	113	87	200
60 years and under 65 years	..	..	..	25	19	44	2	1	3	40	28	68	5	6	11	81	51	132
65 years and under 70 years	..	..	..	26	19	45	..	..	..	15	19	34	7	8	15	54	27	81
70 years and under 75 years	..	..	..	16	25	41	..	..	..	15	11	26	13	7	20	29	29	58
75 years and under 80 years	..	..	..	8	16	24	..	..	..	4	5	9	8	9	17	15	27	42
80 years and under 85 years	..	..	..	17	21	38	..	..	..	1	5	6	7	8	15	16	16	32
85 years and under 90 years	..	..	..	7	5	12	..	..	..	1	1	2	6	4	10	4	7	11
90 years and under 95 years	..	..	..	2	3	5	..	..	..	1	2	3	3	1	4	..	6	6
95 years and under 100 years	..	..	..	1	..	1	..	..	..	..	..	..	..	1	1	..	..	..
Not known	..	..	..	11	..	11	..	..	..	3	..	3	..	..	..	5	..	5
Totals	..	..	..	580	580	1,160	14	16	30	494	429	923	78	76	154	1,147	837	1,984

TOOWOOMBA SPECIAL HOSPITAL

Under 5 years	..	..	..	..	1	2	3	..	..	..	..	..	..	..	..	..	1	2	3
5 years and under 10 years	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	4	3	7
10 years and under 15 years	..	..	..	..	2	3	5	..	..	..	3	..	3	..	..	..	5	11	16
15 years and under 20 years	..	..	..	..	13	9	22	4	2	6	4	5	9	..	..	..	23	19	42
20 years and under 25 years	..	..	..	..	13	21	34	4	4	8	5	12	17	1	..	1	7	8	15
25 years and under 30 years	..	..	..	..	16	14	30	2	2	4	12	10	22	..	..	..	22	17	39
30 years and under 35 years	..	..	..	..	27	23	50	4	10	14	13	13	26	..	1	1	44	19	63
35 years and under 40 years	..	..	..	..	30	27	57	10	10	20	16	16	32	3	1	4	36	35	71
40 years and under 45 years	..	..	..	..	23	25	48	10	6	16	14	16	30	3	2	5	40	46	86
45 years and under 50 years	..	..	..	..	16	26	42	9	6	15	4	19	23	2	1	3	51	57	108
50 years and under 55 years	..	..	..	..	24	10	34	8	6	14	11	11	22	3	1	4	70	43	113
55 years and under 60 years	..	..	..	..	21	25	46	8	7	15	10	19	29	10	1	11	146	138	284
60 years and under 65 years	..	..	..	..	14	24	38	1	6	7	13	29	42	4	4	8	53	28	81
65 years and under 70 years	..	..	..	..	4	11	15	2	3	5	14	9	23	1	..	1	30	29	59
70 years and under 75 years	..	..	..	..	9	7	16	1	1	2	8	6	14	6	1	7	27	9	36
75 years and under 80 years	..	..	..	..	7	5	12	1	1	2	5	2	7	5	2	7	15	12	27
80 years and under 85 years	..	..	..	..	4	3	7	..	..	..	3	3	6	1	2	3	6	4	10
85 years and under 90 years	..	..	..	..	2	..	2	..	..	..	..	1	1	2	1	3	1	1	2
90 years and under 95 years	..	..	..	..	..	2	2	..	..	..	..	2	2	1	..	1	..	..	..
Unknown	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2
Totals	..	..	..	..	226	238	464	64	64	128	135	173	308	42	17	59	583	481	1,064

IPSWICH SPECIAL HOSPITAL

Under 5 years	..	..	..	..	12	21	33	..	..	..	..	..	1	..	1	13	24	37
5 years and under 10 years	..	..	..	..	4	3	7	..	..	..	..	..	3	1	4	33	19	52
10 years and under 15 years	..	..	..	..	2	3	5	..	..	..	1	..	1	2	2	27	23	50
15 years and under 20 years	..	..	..	..	..	..	..	..	..	..	1	1	3	..	3	21	27	48
20 years and under 25 years	..	..	..	..	2	..	2	1	..	1	..	1	2	..	2	27	18	45
25 years and under 30 years	..	..	..	..	1	..	1	1	..	1	..	1	1	..	1	19	21	40
30 years and under 35 years	..	..	..	..	3	..	3	..	..	..	..	..	..	..	..	20	22	42
35 years and under 40 years	..	..	..	..	..	..	..	3	..	3	..	..	..	..	..	18	17	35
40 years and under 45 years	..	..	..	..	2	..	2	..	..	..	..	..	..	2	2	15	22	37
45 years and under 50 years	..	..	..	..	2	..	2	4	1	5	..	..	..	..	..	12	24	36
50 years and under 55 years	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	20	37	57
55 years and under 60 years	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	24	19	43
60 years and under 65 years	..	..	..	..	..	..	..	1	..	1	..	..	..	1	1	21	20	41
65 years and under 70 years	..	..	..	..	..	..	..	..	..	..	..	..	2	1	3	12	17	29
70 years and under 75 years	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	16	13	29
75 years and under 80 years	..	..	..	..	2	..	2	..	1	1	3	..	3	2	4	3	3	6
80 years and under 85 years	..	..	..	..	..	1	1	..	..	..	..	..	1	..	1	5	5	10
85 years and under 90 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
Totals	30	28	58	10	2	12	6	2	8	17	11	28	306	332	638

MOSMAN HALL, CHARTERS TOWERS

5 years and under 10 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10 years and under 15 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
15 years and under 20 years	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	5	..	5
20 years and under 25 years	..	..	..	..	3	..	3	..	..	..	4	..	4	..	..	..	6	..	6
25 years and under 30 years	..	..	..	..	21	..	21	..	..	..	18	..	18	..	..	..	21	..	21
30 years and under 35 years	..	..	..	..	9	..	9	..	..	..	10	..	10	..	..	..	10	..	10
35 years and under 40 years	..	..	..	..	15	..	15	..	..	..	15	..	15	..	..	..	15	..	15
40 years and under 45 years	..	..	..	..	20	..	20	..	..	..	18	..	18	1	..	1	32	..	32
45 years and under 50 years	..	..	..	..	18	..	18	..	..	..	13	..	13	..	..	..	32	..	32
50 years and under 55 years	..	..	..	..	12	..	12	..	..	..	15	..	15	1	..	1	21	..	21
55 years and under 60 years	..	..	..	..	6	..	6	..	..	..	7	..	7	2	..	2	29	..	29
60 years and under 65 years	..	..	..	..	5	..	5	..	..	..	5	..	5	1	..	1	24	..	24
65 years and under 70 years	..	..	..	..	7	..	7	..	..	..	5	..	5	..	..	..	14	..	14
70 years and under 75 years	..	..	..	..	2	..	2	..	..	..	1	..	1	1	..	1	7	..	7
75 years and under 80 years	..	..	..	..	4	..	4	..	..	..	2	..	2	..	..	..	11	..	11
80 years and under 85 years	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	3	..	3
85 years and under 90 years	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
90 years and over	..	..	..	..	1	..	1	..	..	..	..	..	..	1	..	1	1	..	1
Totals	..	..	..	..	125	..	125	..	..	..	113	..	113	8	..	8	232	..	232

* Informal patients have been included in this Table.

TABLE XCI

MARITAL STATUS OF PATIENTS WHOSE ADMISSIONS, DISCHARGES AND DEATHS OCCURRED DURING THE YEAR AND OF PATIENTS WHO REMAINED IN HOSPITAL ON 30TH JUNE, 1965

Marital Status			Admissions			Discharges*						Deaths			Remaining		
						Recovered			Relieved and not Improved								
			Males	Fe- males	Total	Males	Fe- males	Total	Males	Fe- males	Total	Males	Fe- males	Total	Males	Fe- males	Total
BRISBANE SPECIAL HOSPITAL																	
Single	..	..	295	170	465	10	4	14	265	137	402	29	23	52	857	426	1,283
Married	..	..	136	241	377	2	5	7	123	187	310	23	21	44	183	227	410
Separated	..	..	39	45	84	2	3	5	36	28	64	4	2	6	38	48	86
Widowed	..	..	47	105	152	..	3	3	30	61	91	16	30	46	32	110	142
Divorced	..	..	22	19	41	..	1	1	20	16	36	2	..	2	14	26	40
Unknown	..	..	41	..	41	..	..	..	20	..	20	4	..	4	23	..	23
Totals, Special	Brisbane Hospital		580	580	1,160	14	16	30	494	429	923	78	76	154	1,147	837	1,984
TOOWOOMBA SPECIAL HOSPITAL																	
Single	..	..	89	52	141	19	8	27	62	45	107	24	10	34	497	299	796
Married	..	..	89	153	242	29	45	74	61	106	167	13	4	17	54	155	209
Widowed	..	..	10	21	31	4	6	10	7	18	25	4	2	6	6	14	20
Divorced	..	..	6	2	8	1	2	3	4	3	7	1	1	2	7	9	16
Unknown	..	..	3	1	4	..	..	..	1	1	2	..	..	..	19	4	23
Totals, Toowoomba	Special Hospital		197	229	426	53	61	114	135	173	308	42	17	59	583	481	1,064
IPSWICH SPECIAL HOSPITAL																	
Single	..	..	26	27	53	8	1	9	3	1	4	16	9	25	269	258	527
Married	..	..	2	..	2	2	..	2	..	1	1	..	1	1	23	41	64
Widowed	..	..	2	1	3	..	1	1	3	..	3	1	1	2	5	20	25
Separated	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	4
Divorced	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	9	13
Unknown	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4	1	5
Totals, Special	Ipswich Hospital		30	28	58	10	2	12	6	2	8	17	11	28	306	332	638
MOSMAN HALL, CHARTERS TOWERS																	
Single	..	..	82	..	82	..	..	..	71	..	71	5	..	5	172	..	172
Married	..	..	27	..	27	..	..	..	27	..	27	2	..	2	38	..	38
Widowed	..	..	9	..	9	..	..	..	7	..	7	1	..	1	10	..	10
Divorced	..	..	7	..	7	..	..	..	7	..	7	..	..	..	4	..	4
Unknown	..	..	..	..	..	..	..	..	1	..	1	..	..	..	8	..	8
Totals, Hall, Towers	Mosman Charters	..	125	..	125	..	..	..	113	..	113	8	..	8	232	..	232
Grand Totals, all Hospitals	..	..	932	837	1,769	77	79	156	748	604	1,352	145	104	249	2,268	1,650	3,918

* Informal patients have been included in this Table.

TABLE XCII

LENGTH OF RESIDENCE IN THE HOSPITAL OF THE PATIENTS WHO WERE DISCHARGED OR WHO DIED DURING THE YEAR, AND OF THOSE WHO REMAINED ON THE BOOKS OF THE HOSPITAL ON 30TH JUNE, 1965

	Discharges*						Deaths			Remaining		
	Recovered			Relieved and not Improved								
	Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total	Males	Fe-males	Total
BRISBANE SPECIAL HOSPITAL, GOODNA												
Under 1 month	4	1	5	93	63	156	19	11	30	43	38	81
1 month and under 3 months	9	8	17	155	156	311	14	10	24	80	88	168
3 months and under 6 months	1	3	4	77	98	175	6	13	19	108	105	213
6 months and under 9 months .. .. .	..	2	2	38	40	78	4	7	11	64	53	117
9 months and under 12 months .. .. .	..	1	1	28	14	42	2	6	8	33	49	82
1 year and under 2 years .. .. .	..	..	..	33	23	56	8	8	16	93	93	186
2 years and under 3 years .. .. .	..	..	..	12	10	22	4	3	7	75	71	146
3 years and under 5 years .. .. .	..	1	1	15	6	21	7	7	14	102	121	223
5 years and under 7 years .. .. .	..	..	..	9	2	11	5	1	6	89	23	112
7 years and under 10 years .. .. .	..	..	..	11	3	14	..	1	1	114	40	154
10 years and under 12 years .. .. .	..	..	..	5	..	5	2	..	2	52	15	67
12 years and under 15 years .. .. .	..	..	..	6	4	10	1	1	2	73	38	111
15 years and under 20 years .. .. .	..	..	..	5	1	6	2	2	4	79	44	123
20 years and over .. .. .	..	..	..	7	9	16	4	6	10	142	59	201
Totals, Brisbane Special Hospital	14	16	30	494	429	923	78	76	154	1,147	837	1,984
TOOWOOMBA SPECIAL HOSPITAL												
Under 1 month	11	9	20	52	31	83	5	..	5	11	14	25
1 month and under 3 months	18	35	53	28	57	85	4	2	6	15	15	30
3 months and under 6 months	18	15	33	14	27	41	1	2	3	19	26	45
6 months and under 9 months	3	1	4	3	12	15	1	2	3	20	10	30
9 months and under 12 months	1	1	2	4	9	13	3	1	4	6	4	10
1 year and under 2 years	1	..	1	6	7	13	5	..	5	98	68	166
2 years and under 3 years .. .. .	..	..	..	1	1	2	..	..	..	17	27	44
3 years and under 5 years .. .. .	..	..	..	4	..	4	1	2	3	27	32	59
5 years and under 7 years .. .. .	..	..	..	1	1	2	..	..	..	26	18	44
7 years and under 10 years .. .. .	..	..	..	1	2	3	1	2	3	31	42	73
10 years and under 12 years .. .. .	..	..	..	1	1	2	..	..	..	35	32	67
12 years and under 15 years	1	..	1	2	1	3	3	..	3	42	14	56
15 years and under 20 years .. .. .	..	..	..	1	7	8	4	1	5	61	52	113
20 years and over .. .. .	..	..	..	17	17	34	14	5	19	175	127	302
Totals, Toowoomba Special Hospital	53	61	114	135	173	308	42	17	59	583	481	1,064
IPSWICH SPECIAL HOSPITAL												
Under 1 month .. .. .	..	..	..	..	..	..	..	..	..	4	1	5
1 month and under 3 months .. .. .	..	..	..	3	..	3	3	..	3	8	5	13
3 months and under 6 months	1	..	1	..	..	..	..	..	..	5	11	16
6 months and under 9 months	1	..	1	..	..	..	..	1	1	4	4	8
9 months and under 12 months .. .. .	..	..	..	..	..	..	..	..	..	4	8	12
1 year and under 2 years	4	1	5	..	1	1	..	1	1	31	9	40
2 years and under 3 years	1	..	1	1	..	1	..	..	..	21	49	70
3 years and under 5 years	1	..	1	1	..	1	2	5	7	24	105	129
5 years and under 7 years	1	1	2	1	..	1	..	..	..	27	13	40
7 years and under 10 years .. .. .	..	..	..	..	1	1	..	2	2	28	16	44
10 years and under 12 years .. .. .	..	..	..	..	..	..	2	..	2	20	11	31
12 years and under 15 years .. .. .	..	..	..	..	..	..	2	..	2	28	21	49
15 years and under 20 years .. .. .	..	..	..	..	..	..	1	..	1	28	22	50
Over 20 years	1	..	1	..	..	..	7	2	9	74	57	131
Totals, Ipswich Special Hospital	10	2	12	6	2	8	17	11	28	306	332	638
MOSMAN HALL SPECIAL HOSPITAL												
Under 1 month .. .. .	..	..	..	30	..	30	2	..	2	9	..	9
1 month and under 3 months .. .. .	..	..	..	42	..	42	2	..	2	18	..	18
3 months and under 6 months .. .. .	..	..	..	10	..	10	..	..	..	7	..	7
6 months and under 9 months .. .. .	..	..	..	10	..	10	2	..	2	3	..	3
9 months and under 1 year .. .. .	..	..	..	8	..	8	..	..	..	6	..	6
1 year and under 2 years .. .. .	..	..	..	4	..	4	..	..	..	19	..	19
2 years and under 3 years .. .. .	..	..	..	2	..	2	2	..	2	17	..	17
3 years and under 5 years .. .. .	..	..	..	2	..	2	..	..	..	20	..	20
5 years and under 7 years .. .. .	..	..	..	..	..	..	..	..	..	12	..	12
7 years and under 10 years .. .. .	..	..	..	3	..	3	..	..	..	35	..	35
10 years and under 12 years .. .. .	..	..	..	1	..	1	..	..	..	27	..	27
12 years and under 15 years .. .. .	..	..	..	1	..	1	..	..	..	12	..	12
15 years and under 20 years .. .. .	..	..	..	..	..	..	..	..	..	18	..	18
20 years and over .. .. .	..	..	..	..	..	..	..	..	..	29	..	29
Totals, Mosman Hall Special Hospital .. .. .	..	..	..	113	..	113	8	..	8	232	..	232
Grand Totals, all Hospitals	77	79	156	748	604	1,352	145	104	249	2,268	1,650	3,918

*Informal patients have been included in this Table.

TABLE XCIII

SHOWING ADMISSIONS, DISCHARGES, AND DEATHS AT THE WACOL REPATRIATION PAVILION DURING THE YEAR ENDED 30TH JUNE, 1965

Total number of patients on books as at 30th June, 1964	99	Total number of patients on books as at 30th June, 1965	116
Transferred from Brisbane Special Hospital ..	77	Total number of patients on leave as at 30th June, 1965	10
Transferred from Toowoomba Special Hospital ..	1	Total number of patients in residence as at 30th June, 1965	106
Admissions	21	Average number of patients daily resident ..	96
	198		
Discharged, not improved	9		
Discharged, recovered .. .. .	..	
Discharged, relieved	48		
Informal patients left	1		
Died	6		
Transferred to Brisbane Special Hospital ..	17		
Transferred to Gowrie Hall, Toowoomba Special Hospital	1		
	82		

TABLE XCIV

EXPENDITURE TABLE FOR THE FINANCIAL YEAR ENDED 30TH JUNE, 1965

	Brisbane Special Hospital	Toowoomba Special Hospital	Ipswich Special Hospital	Mosman Hall, Charters Towers	Total and Average Costs
Average Number Daily Resident	1,720	1,018	618	212	3,568
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Total Expenditure	1,358,878 7 2	653,070 19 1	511,269 2 9	183,691 8 4	2,706,909 17 4
Sales	4,391 13 11	1,403 7 1	1,404 8 5	847 9 0	8,046 18 5
Collections	106,267 19 0	5,931 0 6	1,987 17 1	..	114,186 16 7
Payments by Commonwealth—					
(a) Pharmaceutical Benefits	26,891 15 9	11,265 19 0	4,207 8 10	2,606 15 6	44,971 19 1
(b) Capital Subsidy	3,112 10 8	1,734 7 1	1,287 6 7	224 2 1	6,358 6 5
Net Expenditure	1,218,214 7 10	632,736 5 5	502,382 1 10	180,013 1 9	2,533,345 16 10
					Average Costs
Gross Cost per Patient per annum ..	790 0 11	641 10 6	827 5 11	866 9 5	772 16 2
Net Cost per Patient per annum ..	708 5 3	621 11 0	812 18 4	849 4 3	719 1 10
Gross Cost per Patient per week ..	15 3 0	12 6 1	15 17 4	16 12 4	14 16 5
Net Cost per Patient per week ..	13 11 8	11 18 5	15 11 10	16 5 9	13 15 10

TABLE XCV

STATEMENT SHOWING EXPENDITURE BY THE DEPARTMENT OF WORKS AT SPECIAL HOSPITALS AND THE EPILEPTIC HOME DURING THE FINANCIAL YEAR 1964-65

Place	Expenditure 1964-65		
	Revenue Fund	Loan Fund	Total
	£ s. d.	£ s. d.	£ s. d.
<i>Special Hospitals—</i>			
Brisbane (Excluding Expenditure at Repatriation Hospital, Goodna)	23,530 18 9	61,541 19 3	85,072 18 0
Charters Towers	607 16 3	1,167 11 0	1,775 7 3
Ipswich	2,116 11 2	25,988 8 5	28,104 19 7
Toowoomba	3,069 0 10	24,016 13 9	27,085 14 7
<i>Epileptic Home—</i>			
Toowoomba	1,582 5 4	7,787 18 5	9,370 3 9
	£ 30,906 12 4	120,502 10 10	151,409 3 2

DETAILS OF EXPENDITURE ON MAJOR WORKS

Special Hospitals				Expenditure 1964-65	
				£	s. d.
Brisbane	Erection of New Farm Unit to replace Farm Ward 17 .. .. .	..	..	30,358	17 2
	Renovation of Buildings—Male Wards 9 and 10 .. .. .	..	..	11,659	15 2
	Re-roofing and repairs Male Ward 4 .. .. .	..	..	8,582	15 8
	External Painting Male Ward 4 .. .. .	..	..	1,852	1 11
	Supply and installation of oil burning H.W. Boilers .. .. .	..	..	3,910	1 7
Toowoomba	Provision Low Voltage Retriculation .. .. .	..	..	8,366	7 6
	Erection of additions to Hospital Ward .. .. .	..	..	5,536	17 7
	Provision of street lighting .. .. .	..	..	2,070	0 0
Ipswich	Alterations to laundry and staff amenities Block .. .. .	..	..	11,379	3 11
	Re-roofing .. .. .	..	..	3,082	0 1
	Heating of Ward 3 for Males .. .. .	..	..	3,382	0 0
Toowoomba Epileptic Home	Repairs to verandah floors various wards .. .. .	..	..	1,204	18 7
	Re-roofing of Home .. .. .	..	..	6,333	7 1

TABLE XCVI
PSYCHIATRIC CLINIC
1. SUMMARY OF NEW PATIENTS REGISTERED DURING THE YEAR 1964-1965

	Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
300 <i>Schizophrenic disorders—</i>																	
300-0 Simple type .. ..	..	1	3	1	4	..	1	6	2	3	..	1	..	..	10	12	22
300-1 Hebephrenic type .. ..	..	1	1	1	3	3	6	1	1	3	1	2	..	3	12	14	26
300-2 Catatonic type .. ..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	..	2
300-3 Paranoid type .. ..	..	..	..	..	6	1	4	2	8	7	1	5	1	3	20	18	38
300-4 Acute schizophrenic reaction .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
300-5 Latent schizophrenia .. ..	..	..	1	1	2	1	5	1	1	2	1	..	2	..	12	5	17
300-6 Schizo-affective psychosis .. ..	..	..	..	..	..	1	..	1	..	1	1	1	..	..	1	4	5
300-7 Other and unspecified .. ..	..	..	..	..	..	2	2	1	2	1	..	1	..	..	4	5	9
301 <i>Manic-depressive reaction—</i>																	
301-0 Manic and circular .. ..	..	..	..	1	1	..	..	1	..	..	..	2	..	..	1	4	5
301-1 Depressive .. ..	..	..	..	..	..	..	..	4	..	2	1	1	..	4	1	11	12
302 Involutional melancholia .. ..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	2	2
303 Paranoia and paranoid states .. ..	..	..	..	..	..	..	1	..	2	..	..	..	2	..	5	..	5
304 Senile psychosis .. ..	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	1	2
305 Presenile psychosis .. ..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	2	3
307 Alcoholic psychosis .. ..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	1	2
308 <i>Psychosis of other demonstrable etiology—</i>																	
308-2 Other .. ..	..	..	..	..	..	..	1	1	1	..	..	..	..	..	2	1	3
310 Anxiety reaction without mention of somatic symptoms .. ..	..	..	..	6	4	16	5	22	5	11	7	7	1	1	22	63	85
311 Hysterical reaction without mention of anxiety reaction .. ..	..	..	..	1	3	4	1	1	..	2	..	..	..	..	4	8	12
312 Phobic reaction .. ..	..	..	..	1	..	1	..	..	1	..	..	1	..	..	1	3	4
313 Obsessive-compulsive reaction .. ..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	2	2	4
314 Neurotic-depressive reaction .. ..	..	5	3	7	4	14	5	17	7	21	7	11	1	10	27	85	112
315 <i>Psychoneurosis with somatic symptoms affecting circulatory system—</i>																	
315-2 Other .. ..	..	..	..	..	..	..	1	..	..	..	..	1	..	..	1	1	2
316 <i>Psychoneurosis with somatic symptoms affecting digestive system—</i>																	
316-3 Other .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
317 <i>Psychoneurosis with somatic symptoms affecting other systems—</i>																	
317-0 Psychogenic reactions affecting respiratory system .. ..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	1	1	2
317-5 Other .. ..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	1	2
318 <i>Psychoneurotic disorders, other, mixed and unspecified—</i>																	
318-1 Depersonalization .. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
318-3 Asthenic reaction .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1
318-4 Mixed .. ..	..	..	..	..	1	1	2	..	2	..	..	..	..	..	1	5	6
318-5 Other and unspecified .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
320 <i>Pathological personality—</i>																	
320-0 Schizoid personality	3	1	2	2	3	3	..	..	..	..	..	..	..	..	8	6	14
320-1 Paranoid personality .. ..	..	..	1	..	..	..	2	..	1	..	..	..	..	..	4	..	4
320-3 Inadequate personality .. ..	..	..	..	..	..	2	1	..	..	..	..	..	..	..	1	2	3
320-4 Antisocial personality .. ..	..	1	4	..	..	2	1	1	1	..	..	..	..	..	10	2	12
320-5 Asocial personality	1	..	..	1	..	1	..	..	..	..	..	..	..	..	3	..	3
320-6 Sexual deviation .. ..	..	..	2	1	4	..	1	..	1	..	1	..	..	..	9	1	10
320-7 Other and unspecified	1	..	4	..	4	..	..	..	..	..	1	..	..	..	10	..	10
321 <i>Immature personality—</i>																	
321-0 Emotional instability .. ..	..	..	..	2	..	1	..	..	..	..	..	..	..	..	..	3	3
321-1 Passive dependency .. ..	..	..	1	..	..	1	3	1	..	..	..	..	..	..	4	2	6
321-2 Aggressiveness .. ..	..	1	..	..	2	1	1	1	..	..	..	..	..	..	3	3	6
321-5 Other and unspecified	1	..	1	1	4	2	..	1	..	1	..	..	..	..	6	5	11
322 <i>Alcoholism—</i>																	
322-1 Chronic .. ..	..	..	..	..	4	..	15	3	26	5	12	1	9	2	66	11	77
322-2 Unspecified .. ..	..	..	..	..	1	..	1	..	1	..	2	..	..	..	5	..	5
323 Other drug addiction .. ..	..	..	..	..	..	2	..	..	1	..	1	1	..	1	2	4	6
324 Primary childhood behaviour disorders .. ..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	2	2
325 <i>Mental deficiency—</i>																	
325-1 Imbecility .. ..	..	1	..	..	..	1	1	..	..	..	..	..	..	..	1	2	3
325-2 Moron .. ..	..	1	3	..	..	..	..	1	1	..	..	..	..	..	4	2	6
325-3 Borderline intelligence	1	1	2	1	3	4	2	2	..	1	..	..	..	..	8	9	17
326 <i>Other and unspecified character, behaviour and intelligence disorders—</i>																	
326-4 Other and unspecified	1	1	..	2	1	..	..	..	1	1	..	..	..	..	3	4	7
345 Disseminated Sclerosis .. ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
350 Parkinsonism .. ..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
353 <i>Epilepsy—</i>																	
353-3 Other and unspecified	1	..	..	..	..	1	2	1	..	..	2	..	..	..	5	2	7
354 Migraine .. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
355 Organic psychiatric state .. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
780-3 Post traumatic epilepsy	1	..	..	..	..	..	..	..	..	..	1	..	..	..	13	1	14
Stammer	1	1	3	..	8	..	..	..	..	..	1	..	..	..	1	2	3
Dyslalia .. ..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Dysarthria .. ..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	2	..	2
Laryngectomy .. ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
No psychiatric abnormality .. ..	..	1	3	2	..	1	1	1	2	..	..	..	..	..	4	7	11
Not yet diagnosed	1	2	1	3	4	5	..	3	..	2	2	..	1	..	8	16	24
Totals	12	22	33	34	75	67	68	78	72	69	44	39	19	27	323	336	659

SOURCES OF REFERRAL OF PATIENTS TO PSYCHIATRIC CLINIC, YEAR ENDED 30TH JUNE, 1965

												Male	Female	Total
Self referrals .. .. .	..	..	..	..	..	..	..	..	..	..	..	80	101	181
Special Hospitals—														
Ex and on leave .. .. .	..	..	..	..	..	..	..	..	..	..	..	73	89	162
In-patients .. .. .	..	..	..	..	..	..	..	..	..	..	..	18	8	26
Medical Practitioners—														
Psychiatrists .. .. .	..	..	..	..	..	..	..	..	..	..	..	8	14	22
Others .. .. .	..	..	..	..	..	..	..	..	..	..	..	13	34	47
Commonwealth Departments	..	..	..	..	..	..	..	..	..	..	..	5	3	8
State Departments—														
Health .. .. .	..	..	..	..	..	..	..	..	..	..	..	12	37	49
Youth Welfare and Guidance .. .. .	..	..	..	..	..	..	..	..	..	..	..	5	20	25
Marburg Home .. .. .	..	..	..	..	..	..	..	..	..	..	..	54	..	54
Justice .. .. .	..	..	..	..	..	..	..	..	..	..	..	39	7	46
Other .. .. .	..	..	..	..	..	..	..	..	..	..	..	2	1	3
Public Hospitals														
Chermside Neuro-Psychiatric Unit .. .. .	..	..	..	..	..	..	..	..	..	..	..	3	11	14
Other .. .. .	..	..	..	..	..	..	..	..	..	..	..	5	6	11
Other .. .. .	..	..	..	..	..	..	..	..	..	..	..	6	5	11
Totals .. .. .	..	..	..	..	..	..	..	..	..	..	..	323	336	659

TABLE XCVII
PSYCHIATRIC CLINIC

2. SUMMARY OF PATIENTS CONTINUING IN TREATMENT FROM THE PREVIOUS YEAR, 1963–1964, INTO THE CURRENT YEAR, 1964–1965

			Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.			
300 Schizophrenic disorders—																			
300-0	Simple type	.. ..	1		1		5	3	4	4	3	6	4	3	..	1	16	19	35
300-1	Hebephrenic type	.. ..					1	3	4	7	3	10	2	10	2	8	12	38	50
300-2	Catatonic type	.. ..					1	..	3	1	..	..	..	..	..	..	4	1	5
300-3	Paranoid type	.. ..					5	1	18	15	11	26	9	15	3	2	46	59	105
300-4	Acute schizophrenic reaction	.. ..			1		4	1	4	3	..	2	..	2	..	..	8	9	17
300-5	Latent schizophrenia	.. ..			2		3	4	2	8	2	7	1	2	..	..	10	21	31
300-6	Schizo-affective psychosis	.. ..					..	..	1	2	2	2	..	2	..	1	3	7	10
300-7	Other and unspecified	.. ..					1	3	2	7	1	9	..	3	..	3	4	25	29
301 Manic-depressive reaction—																			
301-0	Manic and circular	.. ..					..	..	2	..	..	1	..	5	2	2	4	8	12
301-1	Depressive	.. ..					..	..	1	..	1	3	5	5	3	10	10	18	28
301-2	Other	.. ..					..	..	..	..	..	..	..	1	1	1	1	2	3
302	Involuntal melancholia	.. ..					..	..	..	..	..	3	..	4	..	4	..	11	11
303	Paranoia and paranoid states	.. ..					..	..	..	..	2	4	..	2	..	1	2	7	9
304	Senile psychosis	.. ..					..	..	..	..	..	..	..	1	3	1	3	4	4
305	Presenile psychosis	.. ..					..	..	..	..	..	..	..	1	2	..	3	3	3
306	Psychosis with cerebral arteriosclerosis	.. ..					..	..	..	..	1	..	..	1	..	2	..	2	2
307	Alcoholic psychosis	.. ..					..	..	..	..	..	..	1	2	1	..	2	2	4
308 Psychosis of other demonstrable etiology—																			
308-1	Resulting from epilepsy and other convulsive disorders	.. ..					..	1	1	1	1	..	..	..	..	..	2	2	4
309	Other and unspecified psychoses	.. ..					..	..	..	..	1	..	..	1	..	..	1	1	2
310	Anxiety reaction without mention of somatic symptoms	.. ..			3	1	5	4	20	5	12	10	5	1	3	21	48	69	
311	Hysterical reaction without mention of anxiety reaction	.. ..					..	1	..	1	..	8	1	2	..	1	1	13	14
312	Phobic reaction	.. ..					..	1	..	..	1	..	1	1	..	..	2	2	4
313	Obsessive-compulsive reaction	.. ..					1	1	2	1	1	1	..	1	..	1	4	5	9
314	Neurotic-depressive reaction	.. ..			2	2	6	8	20	5	27	7	26	4	17	26	98	124	
316 Psychoneurosis with somatic symptoms affecting digestive system—																			
316-3	Other digestive manifestations	.. ..					..	1	..	2	..	..	1	..	..	..	1	3	4
317 Psychoneurosis with somatic symptoms affecting other systems—																			
317-1	Psychogenic reactions affecting genito-urinary system	.. ..					..	..	1	..	..	1	..	..	..	..	1	1	2
317-5	Psychogenic reactions affecting other systems	.. ..					..	..	..	2	..	1	1	1	..	1	1	5	6
318 Psychoneurotic disorders, other, mixed and unspecified—																			
318-0	Hypochondriacal reaction	.. ..					..	..	..	..	1	..	1	..	..	..	2	..	2
318-4	Mixed	.. ..					1	1	..	1	..	5	..	2	..	1	1	10	11
318-5	Other and unspecified	.. ..					..	..	..	1	..	1	..	1	..	..	..	3	3
320 Pathological personality—																			
320-0	Schizoid personality	.. ..			1	2	6	4	2	2	..	..	..	..	..	..	9	8	17
320-1	Paranoid personality	.. ..					..	..	..	1	1	..	..	..	..	..	1	1	2
320-2	Cyclothymic personality	.. ..					..	..	..	..	..	2	..	..	..	..	..	2	2
320-3	Inadequate personality	.. ..					2	..	..	..	..	..	..	..	..	..	2	..	2
320-4	Antisocial personality	.. ..					1	..	..	..	..	..	..	..	..	..	1	..	1
320-5	Asocial personality	.. ..					..	1	1	..	..	..	..	..	..	..	1	1	2
320-6	Sexual deviation	.. ..					1	..	1	..	..	..	2	..	..	..	3	..	3
320-7	Other and unspecified	.. ..					1	2	..	..	..	..	..	1	..	..	1	3	4

TABLE XCVII—continued

				Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
321	Immature personality—																			
	321.0	Emotional instability	.. ..	..	..	..	1	..	..	1	1	..	1	..	..	..	..	1	3	4
	321.1	Passive dependency	.. ..	..	..	..	1	..	2	2	5	2	1	..	..	1	..	5	9	14
	321.2	Aggressiveness	.. ..	..	..	..	1	1	1	..	1	..	..	..	..	..	..	1	3	4
	321.5	Other and unspecified	.. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
322	Alcoholism—																			
	322.1	Chronic	.. ..	..	..	..	..	..	..	1	..	2	1	1	2	..	..	4	3	7
323	Other drug addiction			.. ..	..	..	..	..	1	..	..	..	3	1	..	..	..	1	4	5
325	Mental Deficiency—																			
	325.1	Imbecility	.. ..	..	..	1	1	2	..	2	1	1	2	..	..	..	..	6	4	10
	325.2	Moron	.. ..	..	..	..	1	2	..	1	..	..	1	..	1	..	..	3	3	6
	325.5	Other and unspecified	.. ..	..	..	..	..	..	1	..	..	1	1	..	..	..	..	1	2	3
326	Other and unspecified character, behaviour and intelligence disorders—																			
	326.4	Other and unspecified	.. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
343	Post encephalitic behaviour disorder			.. ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1
350	Parkinsonism			.. ..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	1
351	Cerebral Spastic Infantile Paralysis			.. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
353	Epilepsy—																			
	353.0	Petit mal	.. ..	..	..	..	..	..	1	1	1	..	..	..	..	..	..	1	2	3
	353.1	Grand mal	.. ..	..	..	..	..	..	..	1	..	1	4	1	..	..	..	3	4	7
	353.3	Other and unspecified	.. ..	..	..	..	..	2	3	..	..	..	..	..	..	..	..	2	3	5
355	Huntington's Chorea			.. ..	..	..	..	..	1	..	..	..	..	1	..	..	..	1	1	2
760B	Organic brain condition, birth injury			.. ..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
	Stammer	.. ..	..	1	..	..	1	6	2	1	..	..	..	..	..	1	..	9	3	12
	Aphasia	.. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	2	2	3	2	5
	Dysphonia	.. ..	..	..	..	..	1	1	..	..	..	..	..	1	1	..	..	2	2	4
	Dysarthria	.. ..	..	..	..	1	2	..	1	..	..	..	..	..	..	..	..	3	1	4
	Laryngectomy	.. ..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	2	..	2
	No psychiatric abnormality	.. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
Totals				1	2	5	16	51	53	73	108	52	145	52	102	24	65	258	491	749

TABLE XCVIII
PSYCHIATRIC CLINIC

3. SUMMARY OF PATIENTS DISCHARGED IN PREVIOUS YEARS WHO HAVE RECEIVED TREATMENT IN THE CURRENT YEAR, 1964-1965

				Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
300	Schizophrenic disorders—																			
	300.0	Simple type	.. ..	..	..	..	..	2	4	3	5	1	2	..	..	..	..	6	11	17
	300.1	Hebephrenic type	.. ..	..	..	..	..	3	1	1	1	1	5	..	6	1	2	6	15	21
	300.2	Catatonic type	.. ..	..	..	..	..	..	1	..	1	1	..	..	1	..	..	1	3	4
	300.3	Paranoid type	.. ..	..	..	..	..	4	2	7	8	5	13	3	10	1	1	20	34	54
	300.4	Acute schizophrenic reaction	.. ..	..	..	..	..	3	1	..	2	..	2	1	..	..	..	4	5	9
	300.5	Latent schizophrenia	.. ..	..	..	1	..	1	1	2	1	..	..	..	..	..	..	4	2	6
	300.6	Schizo-affective psychosis	.. ..	..	..	..	..	2	..	..	2	..	1	..	1	..	..	2	4	6
	300.7	Other and unspecified	.. ..	..	..	..	..	1	1	..	..	..	..	1	..	..	..	2	1	3
301	Manic-depressive reaction—																			
	301.0	Manic and circular	.. ..	..	..	..	..	..	..	1	..	1	3	..	3	..	1	2	7	9
	301.1	Depressive	.. ..	..	..	..	..	..	..	1	..	..	2	2	2	1	2	4	6	10
302	Involutional melancholia			.. ..	..	..	..	..	..	..	..	..	2	..	..	..	2	..	4	4
303	Paranoia and paranoid states			.. ..	..	..	..	..	..	..	1	..	..	1	..	..	..	1	1	2
306	Psychosis with cerebral arteriosclerosis			.. ..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	1
307	Alcoholic psychosis			.. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
310	Anxiety reaction without mention of somatic symptoms			.. ..	..	..	2	..	1	3	3	2	5	2	2	..	..	7	13	20
311	Hysterical reaction without mention of anxiety reaction			.. ..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	3	3
313	Obsessive-compulsive reaction			.. ..	..	..	..	..	1	1	..	1	..	..	..	..	..	2	1	3
314	Neurotic-depressive reaction			.. ..	..	..	..	1	2	1	9	2	5	1	8	2	2	7	26	33
315	Psychoneurosis with somatic symptoms affecting circulatory system—																			
	315.0	Neurocirculatory asthenia	.. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
	315.1	Other heart manifestations	.. ..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	1
316	Psychoneurosis with somatic symptoms affecting digestive system—																			
	316.2	Gastric neuroses	.. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1	1
	316.3	Other digestive manifestations	.. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
317	Psychoneurosis with somatic symptoms affecting other systems—																			
	317.5	Psychogenic reactions affecting other systems	.. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1
318	Psychoneurotic disorders, other, mixed and unspecified—																			
	318.0	Hypochondriacal reaction	.. ..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	2	..	2
	318.3	Asthenic reaction	.. ..	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	1	1
	318.4	Mixed	.. ..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	2	3	5
	318.5	Other and unspecified	.. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	1

TABLE XCVIII—continued

				Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
320	Pathological personality—																			
	320.0	Schizoid personality	.. ..	..	..	1	..	1	3	3	..	2	..	..	..	..	..	7	3	10
	320.1	Paranoid personality	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
	320.3	Inadequate personality	.. ..	..	..	..	..	1	..	..	..	..	..	1	1	..	..	2	1	3
	320.4	Antisocial personality	.. ..	..	..	..	..	2	1	1	..	1	..	..	..	..	..	4	1	5
	320.6	Sexual deviation	.. ..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	2	..	2
	320.7	Other and unspecified	.. ..	..	..	..	..	3	..	3	..	..	..	..	..	..	..	6	..	6
321	Immature personality—																			
	321.0	Emotional instability	.. ..	..	1	1	..	..	..	..	..	1	..	..	..	..	..	1	2	3
	321.1	Passive dependency	.. ..	..	..	..	..	1	1	..	..	..	..	2	..	..	..	1	3	4
	321.2	Aggressiveness	.. ..	..	1	..	..	1	1	2	..	..	..	1	..	..	..	3	3	6
	321.4	Other symptomatic habits except speech impediments	.. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
	321.5	Other and unspecified	.. ..	..	..	..	..	1	..	1	1	..	..	1	..	..	..	3	1	4
322	Alcoholism—																			
	322.1	Chronic	.. ..	..	..	..	..	..	..	4	1	2	..	2	1	..	..	8	2	10
	322.2	Unspecified	.. ..	..	..	..	..	..	..	1	..	3	1	3	..	..	..	7	1	8
323	Other drug addiction			..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	2
324	Primary childhood behaviour disorders			..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	3	3
325	Mental Deficiency—																			
	325.1	Imbecility	.. ..	..	..	..	1	2	..	1	..	1	..	..	..	..	..	4	1	5
	325.2	Moron	.. ..	..	..	2	..	3	2	1	1	..	1	..	..	..	..	6	4	10
	325.3	Borderline intelligence	.. ..	..	..	1	..	1	..	..	1	..	2	..	..	..	..	2	3	5
	325.5	Other and unspecified	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
326	Other and unspecified character, behaviour and intelligence disorders—																			
	326.3	Acute situational maladjustment	.. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	1
	326.4	Other and unspecified	.. ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
353	Epilepsy—																			
	353.0	Petit mal	.. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
	353.1	Grand mal	.. ..	..	..	..	..	1	..	1	..	..	2	..	..	..	..	2	2	4
	353.3	Other and unspecified	.. ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Stammer	..	..	..	1	..	1	..	1	..	1	2	..	..	..	..	..	..	4	2	6
Dyslalia	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
Dysphonia	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1
Totals				2	5	9	4	36	26	41	43	25	53	20	42	8	11	141	184	325

TABLE XCIX

PSYCHIATRIC CLINIC

4. FORENSIC CASES (ALREADY INCLUDED IN PREVIOUS TABLES)

				Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
				M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Probation Office and Police Referrals																				
300	Schizophrenic disorders—																			
	300.0	Simple type	.. ..	..	..	..	..	2	..	1	..	..	..	..	..	..	..	3	..	3
	300.1	Hebephrenic type	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
	300.3	Paranoid type	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
	300.4	Acute schizophrenic reaction	.. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
311	Hysterical reaction without mention of anxiety reaction			..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
320	Pathological personality—																			
	320.3	Inadequate personality	.. ..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1	1	2
	320.4	Antisocial personality	.. ..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	2
	320.6	Sexual deviation	.. ..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	1	..	1
	320.7	Other and unspecified	.. ..	..	..	2	..	1	..	1	..	..	..	..	..	..	..	4	..	4
325	Mental deficiency—																			
	325.1	Imbecility	.. ..	..	1	..	..	..	1	..	..	..	..	..	..	..	..	..	2	2
	325.2	Moron	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
326	Other and unspecified character, behaviour and intelligence disorders—																			
	326.4	Other and unspecified	.. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
No psychiatric abnormality				..	1	..	..	..	..	..	..	1	..	..	..	..	..	1	1	2
Totals				..	2	2	..	7	4	3	..	2	..	1	..	1	..	16	6	22

TABLE XCIX—continued

			Under 18		18-19		20-29		30-39		40-49		50-59		60 and Over		Total		Total
			M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
Supreme and District Courts Pre-Sentence Reports																			
300	Schizophrenic disorders—																		
300.1	Hebephrenic type	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
308	Psychosis of other demonstrable etiology—																		
398.2	Other	.. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	1
320	Pathological personality—																		
320.6	Sexual deviation	.. ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
320.7	Other and unspecified	.. ..	1	..	1	..	2	..	..	..	..	..	..	..	..	..	4	..	4
321	Immature personality—																		
321.5	Other and unspecified	.. ..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	3	..	3
325	Mental deficiency—																		
325.2	Moron	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
325.3	Borderline intelligence	.. ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
325.5	Other and unspecified	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
355	Organic psychiatric state	.. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1
No	psychiatric abnormality	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
Totals			1	..	3	..	7	..	2	1	1	..	..	..	..	..	14	1	15
Public Defender																			
300	Schizophrenic disorders—																		
300.3	Paranoid type	.. ..	..	..	..	..	1	..	..	..	..	1	..	..	..	..	1	1	2
310	Anxiety reaction without mention of somatic symptoms	.. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
314	Neurotic-depressive reaction	.. ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
320	Pathological personality—																		
320.0	Schizoid personality	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
320.4	Antisocial personality	.. ..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	..	2
320.7	Other and unspecified	.. ..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2	..	2
321	Immature personality—																		
321.0	Emotional instability	.. ..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
321.5	Other and unspecified	.. ..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1
322	Alcoholism—																		
322.1	Chronic	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
325	Mental deficiency—																		
325.1	Imbecility	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
325.2	Moron	.. ..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	..	1
353	Epilepsy—																		
353.3	Other and unspecified	.. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1
Totals			1	..	3	..	6	1	2	..	1	1	..	..	..	..	13	2	15
Research Programme—Homosexuality																			
320	Pathological personality—																		
320.6	Sexual deviation	.. ..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	2	..	2
Totals			..	..	..	..	..	..	..	1	..	1	..	..	..	..	2	..	2
Examined by order of Executive Council																			
300	Schizophrenic disorders—																		
300.3	Paranoid type	.. ..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	..	1
300.5	Latent schizophrenic	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
320	Pathological personality—																		
320.0	Schizoid personality	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
320.4	Antisocial personality	.. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1
320.6	Sexual deviation	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
321	Immature personality—																		
321.2	Aggressiveness	.. ..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1
325	Mental deficiency—																		
325.1	Imbecility	.. ..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	1	2
353	Epilepsy—																		
353.3	Other and unspecified	.. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals			..	..	..	..	2	..	4	2	1	..	..	..	..	..	7	2	9
Her Majesty's Prison Classification Committee																			
310	Anxiety reaction without mention of somatic symptoms	.. ..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1	..	1
314	Neurotic-depressive reaction	.. ..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	1	1
320	Pathological personality—																		
320.0	Schizoid personality	.. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1
320.4	Antisocial personality	.. ..	..	2	..	1	..	..	1	..	..	..	..	..	..	..	4	..	4
320.5	Asocial personality	.. ..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	2	..	2
320.7	Other and unspecified	.. ..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	2	..	2
322	Alcoholism—																		
322.2	Unspecified	.. ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	1
325	Mental deficiency—																		
325.3	Borderline intelligence	.. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1
No	psychiatric abnormality	.. ..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	1
Totals			..	..	2	..	6	..	2	..	1	1	2	..	..	..	13	1	14
Grand totals			2	2	10	..	28	5	13	3	7	2	4	..	1	..	65	12	77

TOTAL NUMBER OF ALL PATIENTS WHO HAVE RECEIVED TREATMENT DURING THE YEAR 1964-1965

TABLE XCVI	..	..	..	..	..	..	..	..	659
TABLE XCVII	..	..	..	..	..	..	..	..	749
TABLE XCVIII	..	..	..	..	..	..	..	..	325
Grand Total	..	..	..	..	..	..	..	..	1,733

Number of Psychiatric Consultations	..	..	..	..	..	..	..	..	6,858
Number of Speech Therapy Consultations (excluding those at Welfare and Guidance Clinic)	..	..	..	..	..	..	..	..	634
Number of Social Work Consultations	..	..	..	..	..	..	..	..	833
Grand total	..	..	..	..	..	..	..	..	8,325

REFERRAL OF PATIENTS TO OTHER PSYCHIATRIC UNITS DURING THE YEAR 1964-65

Special Hospitals	..	..	..	..	..	..	..	..	40
North Brisbane Hospital—									
Lowson House	..	..	..	..	..	..	..	..	20
Ward 16	..	..	..	..	..	..	..	..	23
Chermside Neuro-Psychiatric Unit	..	..	..	..	..	..	..	..	61
Total	..	..	..	..	..	..	..	..	144

TABLE C

MENTAL HEALTH REVIEW TRIBUNAL

STATISTICS FOR YEAR ENDED 30TH JUNE, 1965

Applications made to the Mental Health Review Tribunal during the year by—

Patients	..	..	..	..	..	..	..	..	47
Nearest relatives of patients	..	..	..	..	..	..	..	..	2
Total	..	..	..	..	..	..	..	..	49

Disposal of applications—

1. Applications adjourned during previous year—

Patient discharged by hospital	..	..	..	..	..	..	..	..	1
Application refused	..	..	..	..	..	..	..	..	1
No further action by Tribunal	..	..	..	..	..	..	..	..	1
									3

2. Applications heard by Tribunal (including 5 applications made during previous year and not heard as at 1st July, 1964)

Refused	..	..	..	..	..	..	..	..	40
Recommendation for conditional discharge	..	..	..	..	..	..	..	..	2
Recommendation for discharge	..	..	..	..	..	..	..	..	1
Other recommendations	..	..	..	..	..	..	..	..	1
Hearing adjourned	..	..	..	..	..	..	..	..	2
									46

3. Applications not heard—

Patient died before hearing took place	..	..	..	..	..	..	..	..	1
Patients absent on leave on date of hearing	..	..	..	..	..	..	..	..	2
Awaiting hearing	..	..	..	..	..	..	..	..	5
									8

The passing by Parliament of “*The Prisons Act Amendment Act of 1964*” which took effect 8th April, 1964, enabled prisoners whose period of detention had been extended beyond the terms of their imprisonment because of mental illness, to make application to the Mental Health Review Tribunal.

The same privilege was given to prisoners who had been transferred to Special Hospitals by “*The Mental Health Act Amendment Act of 1964*” which came into effect 10th December, 1964.

Of the applications included in the above statistics, 10 were made under Section 27A of “*The Prisons Acts, 1958 to 1964*”. The Tribunal recommended to the Minister the discharge of one patient who made application under this section, and following the approval of the Minister, he was discharged from detention.

TABLE CI

Aged	Admitted		Discharged		Special Hospital		Deaths		Remaining		
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Total
Under 5 years .. ..	..	..	..	..	..	..	..	..	..	..	..
5 years and under 10 years	1	..	..	..	..	..	..	..	1	1	2
10 years and under 15 years	..	..	..	1	..	..	..	..	2	2	4
15 years and under 20 years	2	1	..	1	1	..	..	..	4	5	9
20 years and under 25 years	..	..	..	..	1	..	..	1	9	6	15
25 years and under 30 years	..	1	..	..	..	..	..	..	9	5	14
30 years and under 35 years	..	..	..	..	..	..	..	..	3	6	9
35 years and under 40 years	1	..	..	..	..	..	..	..	10	1	11
40 years and under 45 years	..	..	..	..	..	..	..	..	2	6	8
45 years and under 50 years	..	..	..	..	..	..	..	1	..	6	6
50 years and under 55 years	..	1	..	2	..	..	..	..	5	5	10
55 years and under 60 years	1	..	..	..	1	..	..	..	4	6	10
60 years and under 65 years	..	..	..	..	..	1	..	..	1	3	4
65 years and under 70 years	..	..	..	..	..	..	..	..	..	2	2
70 years and under 75 years	..	..	..	..	..	..	..	..	..	..	..
75 years and under 80 years	..	..	..	..	1	..	..	..	..	..	..
Totals	5	3	..	4	4	1	..	2	50	54	104

Patients' Residence—

Under 5 years	..	..	..	..	..	..	..	21
5-10 years	..	..	..	..	..	..	..	21
10-15 years	..	..	..	..	..	..	..	15
15-20 years	..	..	..	..	..	..	..	21
Over 20 years	..	..	..	..	..	..	..	26
Average daily number resident			..	..	..	..	..	102

Cause of Death—

Female aged 24 years—Acute myocardial failure
Status epilepticus
Mental deficiency

Female aged 49 years—Broncho pneumonia
Epilepsy
Mental deficiency

EXPENDITURE TABLE, EPILEPTIC HOME, FOR THE TWELVE MONTHS ENDED 30TH JUNE, 1965
Average Number Daily Resident—102

Average Number Daily Resident—192									£	s.	d.
Gross Expenditure	..	..	..	..	..	..	..	..	50,463	19	3
Collections	..	..	..	..	..	..	..	..	18,097	5	2
Net Expenditure	..	..	..	..	..	..	..	..	32,366	14	1
Gross Cost per patient per annum	..	..	..	..	..	..	..	..	494	14	11
Net Cost per patient per annum	..	..	..	..	..	..	..	..	317	6	5
Gross Cost per patient per week	..	..	..	..	..	..	..	..	9	9	9
Net Cost per patient per week	..	..	..	..	..	..	..	..	6	1	9

DIVISION OF WELFARE AND GUIDANCE

Senior Medical Director: B. J. PHILLIPS, M.B., B.S. (Qld.), D.P.M. (Lond.)

Medical Director: B. NURCOMBE, M.B., B.S. (Qld.), D.P.M. (Melb.)

Medical Director: B. KLUG, M.B., B.S. (Qld.), D.P.M. (Melb.)

Medical Officer: J. FOLEY, M.B., B.S. (Qld.)

Medical Officer: M. I. LAMB, M.D., Ch.B. (Edin.)

Medical Officer: A. B. SHEARER, M.B., B.S. (Qld.), M.R.C.P. (Lond.)

Dr. B. Klug, a new appointment, had recently obtained his D.P.M. in Melbourne before coming back to Queensland. Dr. B. Nurcombe has returned from the year's study leave in America, where he made a special study of the psychotherapeutic treatment of adolescents. He is now doing most of his work at Wilson Hospital among the adolescents, and has contributed valuable knowledge to the Clinics by imparting some of what he has learnt to other members of the staff.

Dr. Mary Abrahams has returned to the Welfare and Guidance Clinics in a part-time capacity after obtaining her D.P.M.

In the second half of this financial year the Division of Welfare and Guidance was fortunate to have an increase in staff which made up for deficiencies which have been existing for some time. Some vacancies for psychologists were filled and an occupational therapist and a speech therapist were appointed.

Although some of these professional people are new to child guidance, the effect of the appointments has been seen in the intensification of treatment of cases. In addition, a part-time medical officer returned to duty after study leave. These factors have enabled more work to be done by the Division.

During the previous financial year the grand total of examinations, interviews and tests by the various professional people employed in the Welfare and Guidance Clinics amounted to 17,652. This year the grand total was 23,039. This figure is approaching the total attendances of the Children's Hospital Out-patient Department, which for 1963-64 was 35,024. The increase in activity is due to the increase in the staff position. The amount of work done by the various professions in the Welfare and Guidance Clinics and Institutions is shown in Table CV.

Despite the additional staff and the larger number of patients being seen at the Welfare and Guidance Clinics, there has been no shortening of the waiting list. Because of the large number of patients seeking treatment at the clinics a waiting list is necessary and at the moment this waiting period is approximately four months.

Child guidance is a complicated procedure and it does not involve merely the treatment of the particular child brought to the clinic as a problem; the whole family is involved in counselling and possibly in treatment, and more than one professional person is needed to treat a particular family. It is often said that child guidance is "Family Therapy—Child Centred".

The year's activities by the Division of Welfare and Guidance indicate not only a shortage of personnel to deal with the number of people seeking treatment, but also indicate that there is an overall lack of personnel trained in child guidance subjects. The Division has always had in-service training but since the appointment of a Professor of Psychological Medicine at the University of Queensland, it is hoped that there will be an increased number of medical practitioners willing to specialise in child guidance, and the staff position may be better in the future.

However, with a possible increase in staff to cope with the ever-increasing numbers of patients, the accommodation at Mary Street will be quite inadequate. Actually, it is overcrowded at the moment and there would be some difficulty in fitting in any more professional or office staff.

Due to the initiative and personal interest of the Minister, a property has been acquired at Rogers Street in the City of Brisbane, where there will be very much more room and facilities will be very much better. Many of our problems will thereby be solved.

The unit at Rogers Street will cater for out-patients, day hospital patients and in-patients and will be available to school children and pre-school children for the treatment of all nervous and emotional disorders. The Division has been waiting for in-patient facilities for treatment of these children for six years. Wilson Hospital will be retained as the centre for the treatment of delinquent psychiatric behaviour disorders. The children with these disorders happen to be more in the adolescent age group.

There has been considerable interest in country centres to obtain child guidance clinics. A deputation from citizens of Toowoomba some years ago met the Minister for Health and a child guidance clinic of the out-patient type was opened in the grounds of the Toowoomba General Hospital. This is not, as yet, fully staffed, and doctors visit it weekly from Brisbane. There has also been great interest in Townsville in the creation of child guidance facilities and a committee of citizens has been formed there to study the matter and stimulate interest in the creation of child guidance facilities. The Minister has announced that as soon as a child guidance specialist can be obtained to run the child guidance clinic, one will be opened at Townsville. A building in the grounds of the Townsville General Hospital has been made available for the use of a child guidance clinic and will be reconstructed and modified for this purpose. The clinic will be staffed by a psychiatrist, psychologist, social worker, speech therapist, nurse and typist. This is the orthodox child guidance clinic.

It is proposed in the near future to undertake a very much more intensive in-service training of the professional personnel of the Welfare and Guidance Clinics. Already a four-year course of training has been planned for Child Guidance Clinical Psychologists. The efforts of Mr. Plummer, Clinical Psychologist, have been much appreciated in this area.

MARY STREET CHILD GUIDANCE CENTRE

This year the number of new cases seen was 1,014, whereas last year the number of new cases seen at the centre was 715.

Of the children seen 681 were boys and 333 were girls. Most of the cases were from children in the school age group, as can be seen in Table CVI.

The areas from which the children come to the Mary Street Clinic can be seen in Table CII. It will be noted from Table CIV that the majority are primary school children. The source of referral to Mary Street Clinic, as shown in Table CVIII, is usually the parent or the family doctor or a paediatric specialist. Government Departments and other agencies also refer children.

It will be noted that rather a large number were referred from church homes this year. This was due to the fact that in one particular church home a general survey of children took place in an effort to assist the State Children Department in their fostering and rehabilitation programme.

It might be noted from Table CIX that most of the children referred come from homes where there is a natural father and mother. However there seemed to be quite a number where the child is adopted, fostered, or comes from a family where the father has deserted or is deceased.

Table CX shows that the majority of children are referred to the Child Guidance Centre for disturbances of behaviour. Considerable numbers are also referred because of speech defects, psychosomatic disorders or for some emotional problem concerned with their schooling.

The actual clinical diagnoses which were given to the cases attending Mary Street Child Guidance Centre are seen in Table CXI. It must be pointed out that some cases would have more than one diagnosis; perhaps a patient may have an organic disorder combined with a psychological one.

TABLE CII
SHOWING AREAS FROM WHICH PATIENTS COME TO MARY STREET CENTRE AND OTHER CENTRES

Area of Residence	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Brisbane—				
City Central	41	20	(City of	6
North Side, Inner Suburbs	48	19	Toowoomba	5
North Side, Outer Suburbs	208	56	63)	7
Western Suburbs	118	39	(Country Areas	8
South Side, Inner Suburbs	32	12	15)	6
South Side, Outer Suburbs	192	51		9
Bayside Suburbs	55	17		9
Rural	29	8		4
Outside City of Brisbane (Redcliffe and Pine Shires) ..	25	13		0
South Queensland—				
North Coast Line (Coastal area north to Maryborough)	23	5		13
South Coast Line	19	8		5
Western Line (Ipswich westwards and south to border)	39	31		8
North and Central Queensland (Maryborough and north) ..	21	40		13
Other States	4	31		8
Institutionalized for more than one year	160	36	2	3
Totals	1,014	386	80	104

As in previous years it can be seen that a certain number of cases appearing at the Mary Street Centre has an organic basis to their illness. This demonstrates again that, in child guidance work, each case seen should be studied with the fact kept clearly in mind that many of these disorders are due to a complicated interplay of biological, psychological and environmental factors.

WILSON YOUTH HOSPITAL—IN-PATIENT DEPARTMENT

During the year there has been an intensification of treatment in Wilson Youth Hospital. A “work centre” has been planned and work treatment of some of the older boys will be carried out in it on workshop lines.

The Matron, nursing staff and orderlies, with the co-operation and assistance of the Manager, have been carrying out a good deal of social therapy by way of plays, concerts, sporting activities, &c. It is considered that this is an important training of anti-social youths in group co-operation.

There were a number of abscondings from Wilson Hospital. Most of these boys are new arrivals who, because of the fairly free atmosphere, run away to their homes. Of these emotionally disturbed boys who run away, many come back of their own accord.

It is generally considered by experts in the treatment of juvenile delinquency that if an institution does not have a few “runaways” occasionally, its discipline and custody are too strict. Emotionally disturbed boys who are likely to be a danger to themselves or to others are kept under much closer observation and security than the others. The more

dangerous or mentally disturbed are sent to Westbrook Farm Home or to a Special Hospital according to their clinical condition.

Figures showing the admissions and discharges at the In-patient Section of Wilson Hospital appear in Table CIII.

TABLE CIII
SHOWING ADMISSIONS AND DISCHARGES AT WILSON YOUTH HOSPITAL—IN-PATIENT SECTION

Inmates as at 1st July, 1964	28
Admissions during year 1964–65	301
Total for year	329
Discharges during year 1964–65	290
Inmates at at 30th June, 1965	39
Daily average for year 1964–65	37

WILSON YOUTH HOSPITAL—OUT-PATIENT SECTION

The Out-patient Section of Wilson Hospital includes what is usually referred to in other countries as a Children’s Court Clinic. The Children’s Court Magistrate refers children for assessment and treatment. Boys and girls both attend the Out-patient Section of Wilson Hospital.

The total number of children treated at Wilson Youth Hospital, both as in-patients and out-patients, was 386. Of these, 289 were boys and 97 were girls. It will be seen from Table CVI that most of these young persons were in the adolescent age group.

TABLE CIV
SHOWING SCHOOL ATTENDED OR EMPLOYMENT FOLLOWED BY PATIENTS

School/Employment	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Too young for School or work	141	6	7	..
Kindergarten	56	1	1	..
Schools—				
State primary	366	60	40	..
State secondary	71	74	9	..
Private primary	287	24	6	..
Private secondary	23	9	1	..
Subnormal Welfare	6	..	..	..
Opportunity	9	9	1	..
Blind, Oral Deaf, Multiple Handicapped Association Schools	5	..	..	..
Spastic Centres	2	..	..	..
Resident in City for treatment and Queensland Bush Children’s Health Scheme	16	..	..	..
Employed	9	121	8	..
Unemployable	1	..	..	..
Unemployed	8	59	7	..
Other—				
i.e. School age but not attending School; School age but Correspondence School; School age but Coaching Colleges; Employed at Institutions (Holy Cross, &c.)	14	23	..	104
Totals	1,014	386	80	104

TABLE CV
SHOWING NUMBER OF EXAMINATIONS, INTERVIEWS, TREATMENTS, &C., BY THE VARIOUS PROFESSIONS

Centre	Psychiatrist	Psychologist	Social Worker	Speech Therapist	Medical Consultant	Occupational Therapist	Total
Mary Street	8,139	4,178	835	2,016	532	..	15,700
Wilson Hospital	3,278	294	450	..	..	981	5,003
Toowoomba	345	31	41	5	2	..	424
Westbrook	241	12	30	..	..	..	283
Children's Hospital	1,291	148	..	..	..	..	1,439
Warilda	186	4	..	..	..	..	190
Totals	13,480	4,667	1,356	2,021	534	981	23,039

More details of the children attending Wilson Youth Hospital can be seen in Table CIII showing the areas in Queensland and Brisbane from which they came, and also in Table CVIII showing the referring agency. As would be expected, a large number were referred by the Children's Court and from the Probation Section of the State Children Department. However, some were referred by church homes and institutions and some were brought along by parents themselves.

Some of the young persons were attending school and others were of working age. It might be noted from Tables CIV that 121 were employed and 59 were unemployed. Others however were going to school.

The reasons for referring the children to Wilson Youth Hospital can be seen in Table CX. It might be noted that stealing was a very common cause. Uncontrollability and running away from home were also high on the list of causes.

The psychiatric diagnoses of the boys treated at Wilson Youth Hospital appear in Table CXI.

THE BRISBANE CHILDREN'S HOSPITAL—CHILD GUIDANCE CLINIC

This Clinic not only attempts to treat children referred from the Out-patient's Department of the Children's Hospital, but also offers a consultative service to the hospital in general. The two child guidance specialists who conduct the Clinic have been co-operating with the Department of Child Health in the teaching of child guidance principles to medical students. They saw 350 new patients and had 941 treatment sessions with patients seen previously.

The Clinic has been doing psychodiagnostic testing for physicians who may require an assessment of the intelligence of some of their patients. During the year 148 such tests were done by psychologists from the Welfare and Guidance Clinics.

TOOWOOMBA CHILD GUIDANCE CLINIC

The Toowoomba Child Guidance Clinic has never been fully staffed and has been visited by doctors from Brisbane for two days per week. The general pattern of cases attending the clinic follows the same lines as at Mary Street Clinic. School children predominate among the patients and they are referred for the same reasons as at Mary Street Clinic.

The reasons for referral of cases, the areas from where they came, and the clinical diagnoses of the disorders from which the children were suffering, as compared with Mary Street Centre and Wilson Youth Hospital, can be seen in Tables CII, CX, and CXI.

“WARILDA” HOME CLINIC

The professional staff of the Welfare and Guidance Clinic gives a service to the “Warilda” Home of the State Children Department, which is situated at Woolloowin. During the year 1964-65 103 new cases were seen. Some of these were seen on more than one occasion and some of them were given psychological testing. On the whole, 190 interviews, examinations, tests, &c., were done at “Warilda” Home.

The object of the service to “Warilda” is to examine from a psychiatric point of view the children admitted there, and advise the officers of the State Children Department on their disposal—that is, whether they should be sent to a church home, fostered, adopted or retained in care.

The building of new clinical facilities at “Warilda” by the State Children Department has been much appreciated by the staff of the Welfare and Guidance Clinics. The clinical examination room has enabled more work to be accomplished.

WESTBROOK FARM HOME FOR BOYS

A child psychiatrist from the Welfare and Guidance Clinics in Brisbane visits the Westbrook Farm Home weekly. He makes an assessment of cases and advises the State Children Department on the management or disposal of some particular boys.

In conducting this service 104 boys were seen at Westbrook during the year and details about them can be seen in Tables CII, CIV, CVIII, CIX, CX. Most of them were referred by the State Children Department for assessment of their personalities. The clinical diagnoses of these patients can be seen in Table CXI.

THE E.E.G. SECTION—MARY STREET CENTRE

Last year there were 803 E.E.G. investigations done by the E.E.G. staff. This year there has been an increase in number and Table CXII shows the clinic or hospital for which the investigation was done. Most investigations were ordered from the Mary Street Centre.

TABLE CVI
SHOWING AGES OF NEW PATIENTS ATTENDING VARIOUS CENTRES OF THE WELFARE AND GUIDANCE DIVISION

Age Group	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Up to 3 months .. .. .	..	..	..	..
3, 4 under 5 months	1	..	..	..
6, 7 under 9 months .. .. .	..	..	..	..
9, 10 under 12 months .. .. .	..	..	..	..
12, 13 under 15 months .. .. .	..	..	..	..
15, 16 under 18 months	1	..	..	..
18, 19 under 24 months	2	..	1	..
2 years to under 3 years	30	1	..	..
3, 4 under 5 years	137	5	7	..
5, 6 under 8 years	236	14	17	..
8, 9 under 10 years	168	9	12	..
10, 11 under 12 years	189	30	12	..
12, 13 under 15 years	203	145	18	12
15, 16 under 17 years	41	165	9	82
17 years and over	6	17	4	10
Totals	1,014	386	80	104

In Table CVII an attempt has been made to show the E.E.G. abnormalities detected in the abnormal tracings which were done by the E.E.G. Section. The abnormalities as read by the neurologists have been classified under—"active epilepsy, epileptic tendencies, focal abnormalities, excessive slow activities, &c.," and we have shown the number of cases and the percentages pertaining thereto which have been done by the E.E.G. Section for the various centres.

As a generalisation it can be said that at least half of the children sent for E.E.G. investigations show some abnormality. This makes the procedure well worth while as many behaviour problems can be settled down by modern drug treatments, and the E.E.G. investigations are of the utmost value in detecting the children who are most likely to respond.

SERVICES TO CHURCH HOMES AND SIMILAR INSTITUTIONS FOR CHILDREN

A psychiatrist or child guidance specialist visits church homes on a fairly regular basis to assist the people running these homes in the care of the children. There is a high percentage of emotional disturbance among the children in these institutions as was demonstrated by the Welfare and Guidance Clinics some years ago in a survey which was conducted at that time.

The child psychiatrist in visiting these homes not only has a diagnostic and treatment role, but has also a consultative role as far as the personnel of the church homes are concerned.

TABLE CVII
SHOWING CATEGORIES OF E.E.G. (ABNORMALITIES)

Abnormalities have been divided into—

(1) Active Epilepsy	(4) Excess slow activity	(7) Other non-specific abnormalities
(2) Epileptic Tendencies	(5) Diffuse Abnormalities	
(3) Focal Abnormalities	(6) Brain-stem Abnormalities	

SHOWING BRAIN ABNORMALITIES DETECTED BY E.E.G. INVESTIGATIONS

Clinic or Hospital	Epileptic Active	Epileptic Tendencies	Focal Abnormalities	Excess Slow Activities	Diffuse Abnormalities	Brain-Stem Abnormalities	Other Non-specific Abnormalities
Welfare and Guidance Clinic, Mary Street	15 (5.2%)	41 (17%)	22 (8.6%)	55 (21.5%)	20 (7.8%)	89 (34.7%)	15 (5.2%)
Wilson Youth Hospital Outpatients' Clinic	1 (2.2%)	8 (18.2%)	7 (15.9%)	3 (6.9%)	2 (4.6%)	18 (40.9%)	5 (11.3%)
Wilson Youth Hospital In-Patients	3 (9.7%)	3 (9.7%)	2 (6.4%)	5 (16.2%)	2 (6.4%)	10 (32.3%)	6 (19.3%)
Adult Psychiatric Clinic	3 (13%)	2 (8.7%)	1 (4.4%)	13 (56.6%)	4 (17.3%)	Nil	Nil
Children's Hospital Child Guidance O.P.D.	3 (8.9%)	2 (5.9%)	1 (2.9%)	13 (38.2%)	3 (8.9%)	11 (32.3%)	1 (2.9%)
Westbrook Farm Home for Boys	Nil	Nil	Nil	2 (66.6%)	1 (33.4%)	Nil	Nil
Toowoomba Out-Patients' Clinic ..	1 (9.1%)	1 (9.1%)	1 (9.1%)	2 (18.2%)	Nil	6 (54.5%)	Nil
Other Hospital Referrals	8 (32%)	1 (4%)	5 (20%)	2 (8%)	5 (20%)	3 (12%)	1 (4%)

N.B.—The figures in the above columns refer to the number of cases with abnormal findings at a particular Clinic or Hospital. The percentages indicate the percentage of the particular abnormality among the cases with abnormal findings investigated at the particular Clinic.

TABLE CVIII
SHOWING SOURCES OF REFERRAL OF NEW PATIENTS

Sources	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Parent or guardian	344	30	25	..
Family Doctor or Private Specialists (Medical)	182	9	18	..
Public Hospitals	41	5	13	..
Department of Health—				
(i) School Health Services	90	2	..	..
(ii) Maternal and Child Welfare Service	42	..	2	..
(iii) Social Work Division, Psychiatric Clinic, W. and G. Staff	10	1	..	..
Children's Court (Magistrate), Referrals on remand or for assessment, Treatment under probation order .. .. .	..	202	8	..
State Children Department—				
(i) Committed or Probation, children in care (Institutions, fostered, assisted, &c.)	21	77	4	104
(ii) Church Homes, i.e. Salvation Army, Convents, Tufnell, &c. (private cases, &c.)	153*	24	2	..
(iii) Other referrals from S.C.D. (officers, &c.)	14	8	4	..
Education Department—				
(i) Research and Guidance Clinic	31	3	2	..
(ii) State Schools, Opportunity Schools	10	4	..	..
Commonwealth Departments, C.A.L., Vocational Guidance, Rehabilitation Department, Repatriation Department, &c.	14	2	1	..
Other agencies, i.e., Institutions, Spastic, Subnormal, Multiple Handicapped Association, Queensland Bush Children's Health Scheme, Queensland Marriage Guidance Council, "Lifeline", Oral-Deaf, Juvenile Aid Bureau, Police Officers (other), Pre-schools and Kindergartens, Clergymen, Clinic Clients, &c.	58	19	1	..
Church Schools	4	..	..	..
Totals	1,014	386	80	104

* Included in this figure are 110 cases referred from Church Home for Psychological Testing only.

The psychiatrists during their visits discuss the management of children in general, and some of the children in the homes in particular, with the staff.

The institutions for the care of children can be divided into two groups which are serviced either from the Mary Street Centre or Wilson Youth Hospital. The child guidance specialists then who visit church homes either from Wilson Youth Hospital or Mary Street Clinic attempt to follow the children who have been treated at these centres.

Those church homes and similar institutions which are caring for children who have been before the Children's Court are visited by doctors from Wilson Hospital, while the other type of church home caring for deserted and neglected children and State institutions such as "Warilda" are visited by doctors from Mary Street Centre. In all cases it is attempted to give not only a diagnostic and treatment service, but also a consultative service to the personnel in charge of the homes.

SERVICES TO KINDERGARTENS

A member of the medical staff visited the kindergartens one morning per week and this has proved to be a valuable mental health procedure.

During the visits a discussion group with mothers is held, individual mothers are interviewed about their children's problems, and consultations take place with the Kindergarten Director about problems of individual children. No treatment is attempted at the kindergarten and if any mother

wishes her child to be examined and treated, the child is referred to the Mary Street Child Guidance Centre. No child, of course, is examined without permission of the parent.

The discussion groups with mothers seem to be particularly profitable and are always very well attended. Directors of kindergartens also find this of particular value. One of the important points is that the parents in this way become more inclined to accept the fact that their child needs treatment at the Child Guidance Centre. Some of the mothers are keen to discuss problems they have with their children, with the visiting doctor.

The Kindergarten Director also finds that the advice and support that the visiting doctor can give in kindergarten problems are of great value. It is felt that these visits are valuable preventive mental hygiene because of the detection in the early stage of behaviour problems, mental retardation, brain damage, and other child guidance disorders.

During the year 24 kindergartens were visited and 8 were visited on more than one occasion. Also held were 23 discussion groups with mothers.

MENTAL HEALTH

The Division of Welfare and Guidance is very conscious of its responsibilities in the field of child and family mental health. Much statistical data is being accumulated on this problem and various educative measures in the family care of children take place.

TABLE CIX
SHOWING PARENTAL STATE OF CHILDREN ATTENDING VARIOUS CENTRES

Parental State	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Natural father and natural mother	671	206	50	56
Step-father	16	25	..	5
Adopted	43	12	6	6
Step-mother	8	10	2	3
De facto father (i.e. living also with natural mother) ..	7	9	1	1
Fostered	25	16	5	2
De facto mother (i.e. living also with natural father) ..	2	1	1	..
Father deceased	29	16	3	6
Mother deceased	2	10	..	5
Father deserted (institutionalized, Special Hospital, gaoled, &c.) (also if mother leaves father, taking child with her)	45	33	9	7
Mother deserted (institutionalized, Special Hospital, gaoled, &c.) (also if father deserts mother, taking custody of child)	17	4	2	5
Both parents deserted (including divorced, or otherwise separated, but child living with neither parent, not fostered or adopted, i.e. child abandoned in an Institution, &c.) ..	30	24	1	3
Orphaned, i.e. both parents deceased and child institutionalized (does not include fostered or adopted included in above totals). Other non-specified	114	17	..	2
Illegitimate (if no other details known)	5	3	..	3
Totals	1,014	386	80	104

TABLE CX
SHOWING REASONS FOR REFERRAL OF PATIENTS TO THE CENTRES

Reasons	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
Associated with aggressive or antisocial conduct, i.e. assault, vandalism, fire-setting, &c.	10	29	3	..
Sexual problems	2	11	7	..
Nervous habits or symptoms, night terrors, fear of dark, habitual manipulations	30	1	1	..
Temper tantrums, sibling rivalry, uncontrollable at home, running away, cruelty to animals, &c.	120	106	11	..
Uncontrollable at School, truancy, fear of School	39	13	1	..
Other educational problems (lack of progress, &c.) ..	101	4	8	..
Employment problems	2	..	..	..
Speech disorders	156	2	1	..
Psychosomatic and sensory disorders (enuresis, asthma, &c.)	48	1	4	..
Organic brain disorders (fits, paralysis, &c.)	3	2	..	..
Mental deficiency, slow development	29	..	..	..
For assessment only of personality, psychological testing, &c., also for certification, discharge from Institution, &c.				
Routine referrals of State Children in care (i.e. for non-specific reasons)	176	56	3	104
Stealing, breaking and entering, unlawful use of a motor vehicle, &c.	35	141	5	..
Mixed symptoms, i.e. those above and also other abnormal behaviour, i.e. hyperactivity, poor mixers, &c.	250	18	34	..
Miscellaneous, i.e. advice to parents, unexplained defects, attempted suicide, &c.	13	2	2	..
Totals	1,014	386	80	104

TABLE CXI
SHOWING DIAGNOSES OF CASES ATTENDING THE VARIOUS CENTRES

Diagnostic Categories	Mary Street Centre	Wilson Hospital	Toowoomba Clinic	Westbrook Farm Home
<i>Organic Brain Disorders</i>				
Epileptic States	26	8	3	1
Narcolepsy	2	..	..	..
Mental Retardation—				
I.Q. 1–20	1	..	..	..
I.Q. 21–50	16	4	..	..
I.Q. 51–70	69	24	3	4
I.Q. 71–80	33	28	9	9
Developmental Dyslexia	24	4	5	..
Secondary Dyslexia	2	..	..	..
Speech Disorders—				
Mutism-deaf mutism	1	..	..	..
Dyslalia	57	..	4	..
Delayed onset and retarded development of speech ..	26	..	4	..
Disorders of phonation	1	..	..	..
Stammering	48	..	1	..
Aphasia and Apraxia	4	..	..	..
Other mixed speech disorders	27	3	..	..
“ Minimal Cerebral Dysfunction ”	37	4	5	..
Diseases of the Central Nervous System	43	7	7	2
Psychological reactions to physical diseases, i.e. deformity, visual defects, &c.	7	..	..	..
Psychosomatic Disorders	74	3	6	..
<i>Transient Situational Adjustment Reactions</i>				
Gross stress reaction	1	..	..	..
Adjustment Reactions of infancy	22	..	..	..
Adjustment Reactions of adolescence	46	135	8	53
Situational neurotic trait reaction	56	11	11	3
Habit Disorders—				
Habitual manipulation	2	..	..	..
Thumbsucking	1	..	..	..
Other manipulations	4	..	1	..
Multiple mixed habits	4	..	..	..
Behaviour Disorder—				
Eating	2	..	1	..
Sleeping	2	..	..	..
Scholastic performance and School refusal	81	11	5	..
Exceptional Child	1	..	..	..
Sex behaviour	3	17	8	4
Conduct Disorders—				
Stealing	26	125	7	79
Disobedience, lying, truancy, running away	47	58	2	3
Aggressive, destructive, murder, firesetting, vandalism ..	28	13	2	4
Mixed and other behaviour disorders	159	60	28	13
<i>Personality Disorders</i>				
Inadequate, Immature	82	30	20	13
Schizoid, introverted	29	32	4	8
Cyclothymic .. .. .	..	..	..	..
Paranoid	4	6	2	1
Emotionally unstable, “ hysterical ”	30	14	3	6
Passive dependent	10	2	2	1
Passive aggressive	52	9	7	..
Aggressive	14	2	..	1
Compulsive obsessional	11	2	1	..
Antisocial Sociopath, i.e. “ Psychopath ”	4	7	..	13
Dys-social personality	1	11	..	17
Sociopath with sex disorder	1	..	..	..
Sociopathic addiction .. .. .	..	..	..	..
Mixed and other types of abnormal personality, extroverted, &c.	22	21	..	..
<i>Psychoneuroses</i>				
Anxiety State	46	9	3	..
Dissociative Reaction	1	1	..	..
Conversion Reaction	1	..	..	..
School Phobia	8	1	1	..
Other Phobic Reactions	10	..	1	..
Obsessive Compulsive Reaction .. .. .	..	..	..	..
Depressive Reaction	10	4	2	..
Undifferentiated and mixed psychoneurotic reactions ..	8	..	..	..
<i>Psychoses</i>				
Schizophrenic Disorder—simple type	1	..	..	..
Schizophrenic Disorder—Schizoaffective type .. .. .	..	1	..	..
Early infantile autism	3	..	..	..
Undifferentiated childhood schizophrenia	3	..	..	..
Paranoid State	3	1	..	..
Diagnosed as “ Normal ”	39	18	..	..
Other—no diagnosis could be decided	8	3	..	..

TABLE CXII

SHOWING NUMBER OF E.E.G. INVESTIGATIONS		DONE DURING	
THE YEAR			
Welfare and Guidance Clinic, Mary Street (Selected Patients)	511	=	57.8%
Wilson Youth Hospital Outpatients' Clinic (Selected Patients)	95	=	10.7%
Wilson Youth Hospital Inpatients (All Committed Boys)	99	=	11.2%
Adult Psychiatric Clinic (Selected Patients) ..	38	=	4.3%
Children's Hospital Child Guidance, O.P.D. (Selected Patients)	55	=	6.2%
Other Hospital Referrals	46	=	5.2%
Toowoomba Child Guidance Clinic (Selected Patients)	32	=	3.6%
Westbrook Farm Home for Boys (Selected Patients)	8	=	1.0%
Total	884	=	100.0%

Firstly there is the lecturing and teaching and the holding of discussion groups with those who are concerned with children and families in their every day work. Secondly, there is the approach by way of education of parents in the management of their children. Such procedures as lectures,

discussions, &c., with parents have been conducted for some time in a sporadic fashion and it is intended within a very short time to put this on a very much more formal basis.

Awakening parents to abnormalities in their children and indicating where and how these abnormalities can be treated is usually considered an important preventive measure in the field of mental health. Lectures to groups of parents, T.V. talks, &c., are very important in this field. The services of the Health Education Council have been very much appreciated in assisting the Division of Welfare and Guidance in this work.

TEACHING ACTIVITIES

The Division of Welfare and Guidance does a considerable amount of teaching (both at undergraduate and post-graduate level) and the in-service training of child guidance professional personnel is likely to be expanded in the near future.

ACKNOWLEDGMENTS

Appreciation of the co-operation received from various Government Departments, both Commonwealth and State, the various Departments of the University of Queensland, representatives of the Churches and Church Homes for Children is made to all concerned.

ALCOHOL CLINIC

Medical Officer: R. B. MILTON, M.B., B.S. (Q'ld.)

The Alcohol Clinic at North Brisbane Hospital integrates its work into the rest of the hospital and is an essential part of hospital functioning.

Ideas and concepts of treatment of alcoholics currently employed in overseas centres, particularly those of the Georgian Clinic, Atlanta, Georgia, are being introduced. Patients are given psychological support and are accepted as people in the early stages of their treatment. In addition to treatment of the physical complications of alcoholics, educational and group activities are undertaken as treatment progresses. Education includes the showing of films concerning the problem. Group therapy sessions are conducted by the medical officer and a psychologist.

As alcoholism is a disease which affects members of the patient's family as well as himself, one group discussion each week includes family members. Individual counselling of patients is carried out by experienced staff members.

After discharge, patients are encouraged to return as day patients. In some cases the entire treatment is conducted on a day basis.

Table CXIII gives information regarding inpatients, day patients and interviews.

TABLE CXIII
GIVING DETAILS OF IN-PATIENTS, DAY PATIENTS AND INTERVIEWS AT THE ALCOHOL CLINIC, NORTH BRISBANE HOSPITAL, FOR THE FIRST SIX MONTHS OF 1965

1965		Resident Admissions			Active Day Patients			Day Patient Visits		
		M	F	Total	M	F	Total	M	F	Total
January	..	14	4	18	31	8	39	58	18	76
February	..	12	3	15	32	5	37	64	11	75
March	..	16	6	22	59	16	75	121	57	178
April	..	13	3	16	47	10	57	152	21	173
May	..	17	3	20	44	11	55	146	28	174
June	..	17	1	18	57	9	66	136	44	180
Total	..	89	20	109	270	59	329	677	179	856

2.

1965		Interviews with Relatives at Pavilion 4			Patient Interviews at Ward 16		
		M	F	Total	M	F	Total
January	.. ..	3	10	13	24	1	25
February	.. ..	7	8	15	..	..	..
March	.. ..	9	16	25	33	4	37
April	.. ..	1	21	22	18	4	22
May	.. ..	10	14	24	18	6	24
June	.. ..	3	35	38	21	8	29
Total	.. ..	33	104	137	114	23	137

DIVISION OF LABORATORY SERVICES
LABORATORY OF MICROBIOLOGY AND PATHOLOGY

Director: J. I. TONGE, M.B., B.S. (Syd.), D.C.P. (Syd.), M.C.P.A.
Deputy Director: M. J. J. O'REILLY, M.B., B.S. (Syd.), M.C.P.A.
Pathologist: A. DAVISON, M.B., B.S. (Qld.), M.C.P.A.
Technical Supervisor: D. J. W. SMITH, M.Sc. (Melb.).

GENERAL

The present staff of the laboratory consists of 3 medical officers, a graduate technical supervisor, 3 senior bacteriologists, 7 graduates, 2 laboratory technicians division II, 9 technical assistants, 11 cadets, 5 attendants, a clerical staff of 7, and 6 cleaners. Mr. C. F. Sharp, a senior bacteriologist, resigned during the year, after 20 years' service with the laboratory to take up the position of City Chemist with the Brisbane City Council.

Dr. B. C. Allan, M.B., B.S., M.R.C.P., has been appointed Medical Virologist and Dr. N. G. Johnston, M.B., B.S., M.C.P.A., an additional Pathologist.

Dr. D. J. Brand has been working at the Institute of Forensic Pathology since January, 1965, as a Research Fellow of the National Heart Foundation.

The transfer of the laboratory from the present overcrowded accommodation to the Health and Welfare building, which is expected to occur within the next two months, will allow for expansion of the existing activities and for the establishment of the Clinical Virology unit.

Good progress is being made with the construction of the new Animal Breeding Station at the Normanby and this should be ready for occupation in a few months.

The standardisation of techniques continues and the use of regular quality controls is encouraged. The laboratory participated in a biochemical evaluation trial conducted by the College of Pathologists of Australia and also in an evaluation of phage typing of staphylococci conducted by the Staphylococcus Reference Centre at Colindale. In both these the results were extremely satisfactory.

The Director is the Queensland representative of the Traffic Injury Research Sub-committee of the National Health and Medical Research Council and attended two interstate meetings during the year. The Director represents the Department of Health on the Council of the Queensland Institute of Medical Research. Both the Director and Deputy Director served on the Examination Council of the Australasian Institute of Medical Laboratory Technology. The Deputy Director is a member of the Red Cross Transfusion Committee.

The Medical Staff lectures on Forensic Medicine in the University of Queensland and conducts regular post-mortem demonstrations for medical and dental students and also for police recruits.

The Director read a paper to The College of Pathologists in Sydney and the Deputy Director gave lectures in two country centres for the Post-graduate Medical Education Committee of the A.M.A.

The staff has collaborated actively with the Queensland Institute of Medical Research in various projects, with Princess Alexandra Hospital in a survey of hospital infections and with Dr. K. Jamieson and the Traffic Accident Research team. Various projects are in progress in the Leptospirosis Reference Laboratory, the Institute of Forensic Pathology and in the Clinical Bacteriology and Tuberculosis Sections. Assistance has been provided for parasitological surveys at Palm Island and at the Brisbane Special Hospital.

Excellent co-operation has been received from the Brisbane Hospital, the Princess Alexandra Hospital, the Queensland Institute of Medical Research, the Institute of Medical and Veterinary Science, Adelaide, and the Institute of Clinical Pathology, Lidcombe.

STATISTICAL SUMMARY, 1964-65
TABLE CXIV
1. BACTERIOLOGY
A (1). Specimens of Human Origin (Non-Tuberculous)

Specimen	Examination			Totals
	Culture	Microscopy	Antibiotic Sensitivity	
Swabs—				
Throat and Nose	190	102	66	358
Urethra, Cervix, Anus, Bartholin's Glands	1,636	3,809	83	5,528
Ear	62	6	40	108
Eye	36	9	17	62
Other	105	23	68	196
Pus	245	48	212	505
Pleural Fluid	15	9	4	28
Cerebrospinal Fluid	37	66	..	103
Serous Exudate .. .. .	..	1,174	..	1,174
Sputum	431	178	144	753
Blood	270	..	4	274
Urine	3,778	4,754	1,285	9,817
Faeces	550	89	20	659
Miscellaneous	24	10	3	37
Totals 1964-65	7,379	10,277	1,946	19,602
Total 1963-64 .. .. .	.. .. .	.. .. .	.. .. .	14,663

TABLE CXIV—continued
A (2). Tuberculosis Section

Specimen								Examination			Totals	
								Culture	Microscopy	Animal Inoculation		
Sputum	..	..	..	..	..	..	..	13,548	13,548	259	27,355
Sputum (Medi-Haler)	..	..	..	..	..	..	..	3,359	3,359	65	6,783
Gastric Aspiration	..	..	..	..	..	..	..	558	..	204	762
Urine	..	..	..	..	..	..	..	415	..	170	585
Pus	..	..	..	..	..	..	..	21	21	21	63
Pleural Fluid	..	..	..	..	..	..	..	78	78	72	228
Cerebrospinal Fluid	..	..	..	..	..	..	..	9	9	9	27
Miscellaneous Fluid	..	..	..	..	..	..	..	18	18	18	54
Bronchial Washing	..	..	..	..	..	..	..	4	4	..	8
Lung Tissue	..	..	..	..	..	..	..	29	29	30	88
Cultures	..	..	..	..	..	..	..	..	113	33	146
Tissue	..	..	..	..	..	..	..	48	48	45	141
Bone Marrows	..	..	..	..	..	..	..	6	6	6	18
Laryngeal Swabs	..	..	..	..	..	..	..	8	..	..	8
Guinea Pig Tissues	..	..	..	..	..	..	..	..	..	5	5
Miscellaneous	..	..	..	..	..	..	..	5	5	5	15
Totals								18,106	17,238	942	36,286	
Culture								Identification (atypical strains)			..	339
								Sensitivity test (Streptomycin, P.A.S., I.N.A.H.)			..	321
								Sensitivity test (Viomycin, Pyrazinamide, Cycloserine and Ethionamid)			330
								Total 1964-65			37,276
								Total 1963-64			42,342

B. Foods and Waters

Specimen									Examination						Totals
									Culture			Plate Count				Reductase
Water	..	..	..	..	..	..	..	..	951	949	..	..	..	1,900
Milk	..	..	..	..	..	..	..	..	780	777	736	..	..	2,293
Cream	..	..	..	..	..	..	..	..	31	31	31	..	..	93
Other Milk Products	..	..	..	..	..	..	..	..	51	49	..	..	..	100
Meats and Fish	..	..	..	..	..	..	..	..	112	2	..	..	..	114
Miscellaneous	..	..	..	..	..	..	..	..	43	2	..	..	..	45
Totals 1964-65									1,968	1,810	767	..	..	4,545
Total 1963-64									..	..	..	..	..	4,459

C. Various Materials

Specimen										Object of Examination										Number			
Disinfectants and Antiseptics												Rideal-Walker Co-efficient										50	
												Germicidal Value										2	
Bottles												Sterility										79	
Miscellaneous												Sterility										19	
												Culture										5	
Bacterial Cultures												Identification										10	
Skin and Nail Scrapings												Culture										82	
												Direct Smear										60	
												Antibiotic Sensitivity Test										5	
												Total 1964-65										312	
												Total 1963-64										277	

2. PHAGE TYPING

	Number
Cultures Prepared	2,086
Coagulase Tests	899
Antibiotic Sensitivity Tests	1,967
Cultures Phage Typed at R.T.D.	2,866
Cultures Phage Typed at 1,000 X R.T.D.	730
Total 1964-65	8,548
Total 1963-64	15,408

TABLE CXIV—continued

3. SEROLOGY					4. BIOCHEMISTRY							
---					Number	Specimen	Examined For				Number	
Serum Agglutination (Screen)—						Whole Blood	..	Urea	..	..	..	1,968
<i>Salmonella typhosa</i> (O)	23			Glucose	..	..	..	262
<i>Salmonella typhosa</i> (H)	4,754			Uric Acid	..	..	..	879
<i>Salmonella paratyphi</i> (H)	4,754			Pigments	..	..	..	33
<i>Salmonella schottmülleri</i>	4,754			Bromide	..	..	..	5
<i>Proteus</i> OX19	4,764			Cholinesterase	..	..	..	37
<i>Proteus</i> OXK	4,764			CO ₂ combining power	..	..	..	31
<i>Proteus</i> OX2	3			Colloidal Gold Reaction	..	..	..	1
<i>Brucella abortus</i>	5,011	Plasma	..	Protein	..	..	..	2
<i>Leptospira icterohaemorrhagiae</i>	5,030			Fibrinogen	..	..	..	1
<i>Leptospira canicola</i>	5,030	Serum	..	Protein	..	..	..	2,334
<i>Leptospira broomi</i>	5,030			Cholesterol	..	..	..	543
<i>Leptospira zanonii</i>	5,030			Bilirubin	..	..	..	1,093
<i>Leptospira robinsoni</i>	5,030			Chloride	..	..	..	141
<i>Leptospira australis</i>	5,971			Calcium	..	..	..	257
<i>Leptospira bratislava</i>	5,030			Inorganic phosphate	..	..	..	182
<i>Leptospira pomona</i>	5,030			Acid phosphatase	..	..	..	110
<i>Leptospira grippotyphosa</i>	5,030			Alkaline phosphatase	..	..	..	1,099
<i>Leptospira medanensis</i>	5,030			Thymol turbidity	..	..	..	992
<i>Leptospira kremastos</i>	5,030			Thymol flocculation	..	..	..	992
<i>Leptospira mini</i>	5,030			Zinc sulphate turbidity	..	..	..	992
<i>Leptospira hyos</i>	5,030			Paper electrophoresis	..	..	..	1,338
<i>Leptospira celledoni</i>	5,030			Amylase	..	..	..	31
<i>Leptospira autumnalis</i>	5,030			Sodium	..	..	..	172
<i>Leptospira javanica</i>	59			Potassium	..	..	..	136
<i>Leptospira ballum</i>	59			Serum glutamic oxalacetic transaminase	..	..	..	281
<i>Leptospira cynopteri</i>	59			Serum glutamic pyruvic transaminase	..	..	..	632
<i>Leptospira bataviae</i>	59			C. reactive protein	..	..	..	52
<i>Coxiella burneti</i> (Capillary agglutination test)	576			Copper oxidase	..	..	..	1
<i>Streptococcus</i> MG	8	Cerebrospinal Fluid	..	Protein	..	..	..	80
Cold Agglutinins	7			Globulin	..	..	..	37
Serum Agglutination Tests (Quantitative)	1,831			Chloride	..	..	..	54
Paul Bunnell Tests	4,951			Glucose	..	..	..	55
Leptospiral Strains typed (22)—								Colloidal Gold Reaction	..	..	..	1,018
Agglutination Tests Performed in Typing	3,275	Pleural Fluid	..	Protein	..	..	..	2
Absorption Tests Performed in Typing	320	Ascitic Fluid	..	Protein	..	..	..	1
Antisera Prepared	23	Urine	..	Albumin	..	..	..	4,754
Complement Fixation Tests—								Sugar	..	..	..	4,757
<i>Coxiella burneti</i> (Phase I)—								Bilirubin	..	..	..	8
Routine	6			Urobilin	..	..	..	3
Quantitative	3			Urobilinogen	..	..	..	4
<i>Coxiella burneti</i> (Phase II)—								Diastase	..	..	..	6
Routine	5,622			Calcium	..	..	..	16
Quantitative	569			Coproporphyrins	..	..	..	9
Complement Fixation Tests—								Porphyryns	..	..	..	5
Typhus Fever Murine (Soluble)—Routine	2			Phosphate	..	..	..	5
Psittacosis (<i>Miyagawanella ovis</i>)—								Bence Jones protein	..	..	..	4
Routine	5,621	Faeces	..	Total, Split and Unsplit Fats	..	..	..	94
Quantitative	249			Occult blood	..	..	..	43
Kolmer Wassermann (Serum)—								Trypsin	..	..	..	1
Routine	12,346	Renal Calculi	..	Chemical constitution	..	..	..	47
Quantitative	106	Vomitus	..	Blood	..	..	..	1
Reiter Protein—						Functional Tests	..	Glucose tolerance tests	..	..	..	260
Routine	1,138			Urea clearance tests	..	..	..	38
Quantitative	46			Urea concentration tests	..	..	..	38
Kolmer Wassermann (C.S.F.)	559			Fractional test meals	..	..	..	28
Reiter Protein (C.S.F.)	29			Histamine test meals	..	..	..	3
V.D.R.L.	12,355							
Total, 1964-65	155,096			Total, 1964-65	..	..	..	25,968
Total, 1963-64	150,381			Total, 1963-64	..	..	..	24,332

9. EXFOLIATIVE CYTOLOGY

Specimen	Number
Sputum	1,864
Bronchial or Tracheal Washing	21
Pleural Fluid	75
Miscellaneous	47
Total, 1964-65	2,007
Total, 1963-64	2,202

Specimen	Object of Examination	Number
Clothing and Various Articles	Blood	331
	Spermatozoa	261
Vaginal Smears	Spermatozoa	89
Tissue	Histopathology	480
Blood	Grouping	16
Bloodstains and Scrapings	Presence of Blood ..	116
	Determination of Blood Group	86
Hair	Identification	21
Skeleton	Identification	5
	Total 1964-65 ..	1,405
	Total 1963-64 ..	1,052

Specimen	Object of Examination	Number
Faeces	Amoebae (Cysts and Vegetative)	1,552
	Helminth ova	1,516
Pus	<i>Trichomonas vaginalis</i>	98
Blood	<i>Plasmodium</i> sps.	29
	Microfilaria	2
Helminth	Identification	17
	Total, 1964-65	3,214
	Total, 1963-64	1,520

			Number
Post-mortem Examinations	..	Total, 1964-65	944
		Total, 1963-64	881

	Number
Slide Test (Pregnancy)	2,534
Slide Test (Pregnancy) (Quantitative)	41
Casoni Skin Test	2
Sweat Test	1
Seminal Fluid Assessment	10
Total, 1964-65	2,588
Total, 1963-64	2,009

Tissue Sections Prepared	Number
Human—	
Biopsy (specimens received 7,167)	11,539
Medico-Legal Tissues	480
Animal Tissues	5
Total 1964-65	12,024
Total 1963-64	10,642

Specimen	Examination	Number
HISTOLOGY		
Tissue	Post Mortem	3,434
	Frozen sections	60
	Special stains	73
	Heart sections (Research project)	1,214
	Total, 1964-65 ..	4,781
	Total, 1963-64 ..	4,011

Whole Blood	..	Urea	8
		Barbiturate	66
Serum	..	Amylase	3
		Protein	30
		Chloride	28
Cerebrospinal Fluid		Urea	8
Urine	..	Barbiturates	60
		Reducing sugars	5
		Acetone	3
		Aceto Acetic Acid	3
		Pigments	1
Gastric Contents	..	Blood Detection	2
Total, 1964-65						217
Total, 1963-64						44

TABLE CXIV—*continued*12. INSTITUTE OF FORENSIC PATHOLOGY—*continued*

BACTERIOLOGY					
Specimen	Examination				Number
Swabs—					
Lung	Culture .. ..	..	..	..	42
Bronchial ..	Culture .. ..	..	..	..	25
Bowel	Culture .. ..	..	..	..	23
Ear	Culture .. ..	..	..	..	30
Pericardium ..	Culture .. ..	..	..	..	2
Faeces	Culture .. ..	..	..	..	2
Blood	Culture .. ..	..	..	..	21
Pus	Culture .. ..	..	..	..	2
	Direct Smear ..	..	..	..	1
Vaginal Smear ..	Spermatozoa ..	..	..	..	4
Diatoms	Examination for ..	..	..	..	11
	Total, 1964–65 ..	..	..	..	163
	Total, 1963–64 ..	..	..	..	331

13. MATERIAL SUPPLIED.

To hospitals, private practitioners and local authorities

Diagnostic kits for tuberculosis	322
Diagnostic kits for bacteriology	2,681
Diagnostic kits for haematology and serology ..	11,352
Diagnostic kits for biochemistry	596
Total 1964–65	14,951
Total 1963–64	8,760

14. MEDIA

Slopes	93,522
Plates	39,560
Tubes and bottles	109,723
Total 1964–65	142,804
Total 1963–64	215,757
Chemical Solutions	1,672 litres
Stains	140 litres
Total	1,812 litres

Q FEVER

(a) Incidence: geographical and occupational

During the year, 1st July, 1964, to 30th June, 1965, 298 recent infections with Q fever were diagnosed in patients from Queensland and 23 from New South Wales. One further infection was acquired by a Queensland doctor during a visit to India. Diagnostic criteria used are: a complement fixation titre for *Coxiella burnetii* of 1:64 or greater in a single specimen or a fourfold rise in titre in paired sera. The geographical distribution of the cases is set out in Table CXV, and the occupational incidence in Table CXVI. There has been a marked increase in the number of patients with Q fever in Queensland, 112 more than in the previous year. This increase was mainly due to an outbreak in an abattoir at Maryborough.

TABLE CXV

GEOGRAPHICAL DISTRIBUTION OF Q FEVER CASES DIAGNOSED IN THE LABORATORY

(1st July, 1964, to 30th June, 1965)

QUEENSLAND						Number
District						
Metropolitan .. ..	..	..	..	..	..	63
Moreton .. .. .	..	..	..	..	..	42
Maryborough .. ..	..	..	..	..	..	62
Downs .. .. .	..	..	..	..	..	47
Cairns .. .. .	..	..	..	..	..	17
Townsville .. ..	..	..	..	..	..	13
Mackay .. .. .	..	..	..	..	..	1
Rockhampton .. ..	..	..	..	..	..	8
Roma .. .. .	..	..	..	..	..	20
Central West .. ..	..	..	..	..	..	11
Far West .. .. .	..	..	..	..	..	1
South-West .. ..	..	..	..	..	..	13
Total .. .. .	..	..	..	..	..	298

NEW SOUTH WALES

Northern Rivers .. ..	..	..	..	..	..	5
Tenterfield .. ..	..	..	..	..	..	9
Broken Hill	4
Gunnedah	1
Newcastle	3
Sydney	1
Total	23

OTHER COUNTRY

India	1
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TABLE CXVI

OCCUPATIONAL DISTRIBUTION OF Q FEVER CASES (1st July, 1964, to 30th June, 1965)

QUEENSLAND						Number
<i>Meat Industry—</i>						
Abattoir workers .. ..	..	..	..	..	..	158
Occupations associated with abattoirs ..	..	..	..	..	..	24
Total .. .. .	..	..	..	..	..	182
<i>Sheep Industry—</i>						
Shearers and woolclassers .. ..	..	..	..	..	..	35
Station hands and graziers .. ..	..	..	..	..	..	5
Total .. .. .	..	..	..	..	..	40
<i>Dairying Industry—</i>						
Dairy farmers .. .. .	..	..	..	..	..	30
Total .. .. .	..	..	..	..	..	30
<i>Other occupations—</i>						
Hide handlers .. .. .	..	..	..	..	..	4
Poultry Abattoir Workers .. ..	..	..	..	..	..	23
Labourers .. .. .	..	..	..	..	..	5
Veterinary surgeons .. ..	..	..	..	..	..	2
Cane farmers .. .. .	..	..	..	..	..	2
Office Workers .. .. .	..	..	..	..	..	3
Surveyor .. .. .	..	..	..	..	..	1
Housewife .. .. .	..	..	..	..	..	1
Unknown .. .. .	..	..	..	..	..	5
Total .. .. .	..	..	..	..	..	46

NEW SOUTH WALES

Abattoir workers .. ..	..	..	..	..	..	17
Sheep station hands .. ..	..	..	..	..	..	3
Dairy farmers .. .. .	..	..	..	..	..	2
Engineer .. .. .	..	..	..	..	..	1
Total .. .. .	..	..	..	..	..	23

(b) Outbreak of Q fever in an abattoir at Maryborough

Between September and November, 1964, an explosive outbreak of Q fever occurred in an abattoir at Maryborough. Of the 162 employees whose sera were tested, 53 showed serological evidence of a recent infection.

At the abattoir, cattle, sheep and poultry are slaughtered, the killing floors for cattle and poultry being adjacent and incompletely separated physically. The cases appeared to occur predominantly amongst the personnel handling poultry and thus a serological survey of poultry supplied to the abattoir was made. Sera from 574 fowls were tested by the direct and 500 by the indirect complement fixation test, all with negative results. Sera from 34 poultry farmers who supply poultry to the abattoir were also tested and showed no serological evidence of Q fever.

The source of the outbreak at the abattoir could not be determined but a full report of the epidemiological investigation is being prepared.

LEPTOSPIROSIS

(a) Incidence: geographic and occupational

During the year 1st July, 1964, to 30 June, 1965, 235 patients showed serological evidence of recent leptospirosis, 213 from Queensland and 22 from New South Wales. The geographical distribution of cases and the probable causitive serotypes are set out in table CXVII. The occupational distribution of cases is summarized in Table CXVIII.

(b) The WHO/FAO Leptospirosis Reference Laboratory

In addition to the diagnostic service provided for medical and veterinary practitioners, the following investigations have been undertaken.

The study of leptospiral strains from Colombia has continued and the results of some of this work, relating to the isolation of *L. canicola* from dogs in the City of Bogota, were embodied in a recent publication by workers in that country. (Ganaderia Colombiana, 1964:iii, 97).

Several hundred human and animal sera from New Guinea were tested. The majority of the human sera (245) were submitted for other tests associated with the investigation of Kuru in the New Guinea Highlands. Antibodies to the *hyos* group predominated.

The study of Australian *icterohaemorrhagiae* group strains has continued and five strains of the serotype *mankarso* have been identified in North Queensland material. The range of this serotype has now been extended from Cairns to Iron Range. The identity of six strains of *icterohaemorrhagiae*, previously recorded from Cairns (1) and Brisbane (5) was confirmed.

Although *icterohaemorrhagiae*, *pomona* and *hyos* have been the only serotypes isolated previously in Australia outside of North Queensland, serological patterns characteristic of infection with other serotypes are occasionally noted in other areas. In order to investigate their significance blood cultures were made from 232 patients during the year and *L. australis* was isolated from a patient in New South Wales. This work will be continued.

(c) *L. australis* infection in northern New South Wales

In February, 1965, leptospire were grown from the clot of a sample of blood submitted to the laboratory for serological tests by Dr. K. R. Barnes, Mullumbimby, New South Wales. The patient, a male aged 48 years, was a council worker engaged in cleaning streets and drains at Mullumbimby. He had never visted North Queensland nor had he been

TABLE CXVII
GEOGRAPHICAL DISTRIBUTION AND CAUSATIVE SEROTYPES IN 235 LEPTOSPIRAL INFECTIONS
(1st July, 1964, to 30th June, 1965)

Serotype	Number
Coastal area of Queensland, North of Rockhampton—	
<i>icterohaemorrhagiae</i> group	2
<i>canicola</i> group	4
<i>pyrogenes</i> group	6
<i>australis</i> group (one <i>australis</i> isolated)	26
<i>pomona</i>	12
<i>grippotyphosa</i> (one <i>grippotyphosa</i> isolated)	2
<i>hebdomadis</i> group	5
<i>hyos</i>	5
<i>celledoni</i>	1
Indeterminate (? mixed infection)	10
Total	73
Coastal area of Queensland, Rockhampton to New South Wales border—	
<i>australis</i> group	10
<i>pomona</i>	79
<i>hebdomadis</i> group	2
<i>hyos</i>	16
Indeterminate (? mixed infection)	8
Total	115
Darling Downs and Western Queensland—	
<i>canicola</i> group	1
<i>australis</i> group	6
<i>pomona</i>	16
<i>hyos</i>	2
Total	25
New South Wales—	
<i>icterohaemorrhagiae</i> group	1
<i>australis</i> group (one <i>australis</i> isolated)	7
<i>pomona</i>	9
<i>hyos</i>	5
Total	22

TABLE CXVIII

OCCUPATIONAL DISTRIBUTION OF LEPTOSIPROSIS INFECTIONS
(1st July, 1964 to 30th June, 1965)

	Number
Meat Industry	85
Dairying Industry	45
Sugar Industry	12
Other Occupations	28
Unspecified (majority from sugar growing districts)	65
Total	235

out of the Mullumbimby district in the significant period prior to his illness. He was unaware of any contact with animals which might have come from North Queensland.

Serum from the cultured specimen, collected on the first day of illness contained no leptospiral antibody, but a specimen taken on the fifteenth day contained antibodies to the serotypes *australis*, *bratislava* and *grippotyphosa* in a titre of 3000. Serological typing of the strain isolated from the patient placed it in the serotype *australis*.

This is the first recorded isolation of *australis* in Australia outside of North Queensland. Four recent patients with suggestive serology were two meatworkers at Byron Bay, a scrap metal dealer at Lismore and a schoolboy at Woodenbong. More cultural studies would probably confirm suspicions of a wider distribution of some other serotypes.

(d) Survival of antibodies to *L. pomona*

One patient referred to the laboratory acquired an infection with *L. pomona* in April, 1959, having an agglutination titre of 1:3000 at that time. When this patient was again tested on four separate occasions in July and August, 1964, the agglutination titres varied between 1:10,000 and 1:30,000.

As there had been a lapse of 5 years since the antibodies were first detected the possibility of a chronic infection was considered but repeated attempts to isolate the organism from the urine failed.

This case serves to emphasise the long survival of leptospiral antibodies in human sera, and the need for caution in diagnosing acute infections without the results of paired sera being available.

No authenticated cases of reinfection with the same serotype are known, but reinfection with heterologous serotypes is not uncommon.

TYPHUS

Twelve cases of scrub typhus were diagnosed serologically during the year, eight from Cairns, one from Townsville and three from Mackay. These patients each had symptoms consistent with scrub typhus and were from areas where the disease is known to occur. Sera from a further four patients had high agglutination titres for *Proteus OXK* but the symptoms were not suggestive of a rickettsial infection.

Three patients, from Brisbane, Bundaberg and Cairns respectively, had agglutination titres of more than 1:2000 for *Proteus OX19*, two showing a marked rise in paired sera. In none was it possible to detect complement fixing antibodies for *Rickettsia mooseri*. Unfortunately no satisfactory antigen for *R. australis* is available so it is not possible as yet to exclude an infection with Queensland Tick Typhus.

PSITTACOSIS

Miyagawanella psittacci was isolated from a Cockateel which had become ill and was submitted, after death, for examination.

BRUCELLOSIS

Serological evidence of twenty-two brucella infections was found during the year; 18 in Queensland and four in New South Wales. The geographical distribution of 52 cases recorded in the past two years is set out in Table CXIX. A significant (fourfold) change in titre in paired sera or a titre of 1:128 or greater in a single specimen was regarded as diagnostic. Only four of the cases recorded this year showed maximum titres of less than 1:512.

TABLE CXIX
BRUCELLOSIS INFECTIONS ON SEROLOGICAL EVIDENCE
(1st July, 1963, to 30th June, 1965)

Locality	Number	
	1963-64	1964-65
<i>Queensland—</i>		
Brisbane	8	8
Ipswich	2	1
Beaudesert	1	..
Caboolture	1	..
Monto .. ..	..	1
Gympie	3	..
Gladstone	1	..
Clermont .. ..	..	1
Rockhampton	2	..
Cairns	1	3
Toowoomba	1	3
Warwick	1	..
Laidley .. ..	..	1
Dalby	1	..
Totals	22	18
<i>New South Wales—</i>		
Murwillumbah	1	1
Lismore	3	..
Coffs Harbour .. ..	..	1
Grafton	2	..
Taree	1	1
Tenterfield	1	..
Sydney .. ..	..	1
Totals	8	4

TYPHOID

One case of Typhoid was diagnosed serologically during the year. The patient, a 65-year-old female, was in transit from Singapore to Sydney and apparently acquired the infection in Singapore.

SYPHILIS SEROLOGY

Routine serological tests for syphilis were carried out on 12,355 sera. Included in this number were sera from 11 patients which presented a diagnostic problem. These sera were sent to Dr. Garner at the Institute of Clinical Pathology, Lidcombe, N.S.W. for treponema immobilisation tests. It is of value to have this reference centre available and it is anticipated that in future more sera will be referred when diagnostic problems arise and as a check on our own results.

Sera collected from natives in the Kuru area in New Guinea were received for serological investigation. To date 245 have been tested with the V.D.R.L., 1/5 Kolmer Wassermann and Reiter C.F. tests. Seventy-five have reacted in at least one of the three tests performed and four gave weak reactions in one of the tests. It is too early to determine the significance of these findings and the survey is to continue.

A. ANITRATUM AND MALE CLINIC

Achromobacter anitratum was isolated from pus from the parotid gland of a child who had had recurring attacks of parotitis. This is the first time this organism has been isolated in this laboratory. Since then *A. anitratum* has been grown from specimens of urine, sputum and urethral cultures.

Tribe Mima, a closely related group of organisms, has also been cultured. Mima is a pleomorphic gram-negative organism which can show diplococcal rod forms. In the diplococcal form it is very similar to *N. gonorrhoeae* and in smears could be confused with *N. gonorrhoeae*. There has been an increasing amount of literature concerning this occurrence of Tribe Mima in venereal clinics in other countries. A survey was therefore carried out at the Male Venereal Disease Clinic to find out whether it was present in Brisbane. Material from 215 patients from this clinic was collected on blood agar and chocolate agar and 99 strains of *N. gonorrhoeae* were grown, 10 strains of *Mima polymorpha* and one strain of *A. anitratum*. The sensitivity to Penicillin of these 99 cultures of *N. gonorrhoeae* was tested by the plate dilution method. It has been reported that strains of *N. gonorrhoeae*, sensitive only to concentrations of 0.125 I.U./ml. of Penicillin or higher should be considered relatively insensitive therapeutically.

Of the 99 strains of *N. gonorrhoeae* tested here:
46 were sensitive to 0.008 I.U./ml. Penicillin
23 were sensitive to 0.016 I.U./ml. Penicillin
16 were sensitive to 0.032 I.U./ml. Penicillin
2 were sensitive to 0.064 I.U./ml. Penicillin
7 were sensitive to 0.125 I.U./ml. Penicillin
3 were sensitive to 0.25 I.U./ml. Penicillin
1 was sensitive to 0.5 I.U./ml. Penicillin
1 was sensitive to 1.0 I.U./ml. Penicillin

PHAGE TYPING OF STAPHYLOCOCCI

Most of the cultures referred for phage typing came from Princess Alexandra Hospital where a systematic survey of infections is still in progress. Strains typing with Group III phages are now almost as frequent as Group I strains. This year a new phage, 315, was added to the basic set. Phage 315 reacts with most of the cultures which previously showed an inhibition pattern only with six Group III phages used at 1000 × R.T.D. dilution.

Only four centres outside the metropolitan area submitted cultures this year.

Nonga Base Hospital, Rabaul, New Guinea, is conducting a survey into the phage types of *Staphylococcus aureus* isolated from natives attending the hospital as out-patients and in-patients. 123 cultures have been phage typed so far and show that Group II strains are far more common than any other group. Of these strains 32 per cent. were Group II whereas in cultures from Brisbane only 11 per cent. fell in this group. There was also a high level (41 per cent.) of strains which were non-typable.

This year the *Staphylococcus* Reference Laboratory at Colindale distributed a set of 24 strains of *Staphylococcus aureus* to check the reactions of phages. Regional results were handled by Dr. Phyllis Rountree of the Royal Prince Alfred Hospital, Sydney. Full details of the results of the tests are not yet available but our phage reactions were satisfactory.

SALMONELLA ISOLATIONS

Six salmonella strains were isolated from Brisbane and country districts, five being from children with gastroenteritis. The strains from the Brisbane area were *S. typhi-murium*, *S. muenchen*, *S. vejle* and *S. bovis-morbificans*, one from Cloncurry was *S. senftenberg* and one from Bundaberg *S. derby*.

From cultures submitted from the Veterinary Laboratory in Port Moresby, *S. bareilly* and *S. anatum* were isolated from pigs, *S. vejle* from food mix and *S. cholerae-suis* from meat meal.

From the Port Moresby hospital cultures from five children with gastroenteritis were found to be *S. infantis*, *S. abony*, *S. saint paul*, *S. virchow* and *S. cholerae-suis v kunzendorf*. *S. newport* was isolated from the urine of an adult male native.

PARASITOLOGY

The work in this section has doubled during the year largely due to surveys being carried out at the Aboriginal settlement at Palm Island and at the Special Hospital at Goodna. Increasing numbers of specimens are being referred in recent months, with a wide variety of infections.

As many of the specimens have had to be sent long distances and searched on arrival for vegetative amoebae, the use of the M.I.F. Stain Preservation Technique is proving most helpful.

Extensive surveys are contemplated in the next twelve months to check the results of mass treatment both at the Special Hospital and at Palm Island.

(a) Parasitological survey at Special Hospital, Goodna
(i) FARM COLONY A

Parasite	Number of Patients Found Positive	Percentage
<i>E. histolytica</i> trophozoites	5	6
<i>E. histolytica</i> cysts	16	19
<i>E. coli</i> cysts	10	12
<i>G. lamblia</i> cysts	14	16
<i>E. nana</i> cysts	3	4
<i>E. hartmanni</i> cysts	1	1
<i>I. butschlii</i> cysts	2	2
<i>T. trichiura</i> ova	14	16
Hookworm ova	3	4
<i>H. nana</i> ova	4	5
<i>E. vermicularis</i> ova	1	1
Number of Patients	86	
Number of Specimens	165	

After two examinations of these patients, 26 were found to have either *E. histolytica* trophozoites or cysts, thus giving an incidence of 30 per cent. infected.

(ii) FARM COLONY B

Two separate mass treatments of *E. histolytica* were administered to the patients in this Farm Colony. The patients comprise female mentally deficient children.

The first treatment with Intestopan (4 tablets t.d.s.) of all patients was stopped before the 10-day course was completed because of side effects. Specimens were examined six weeks after this treatment.

The second mass treatment with Furamide lasted 10 days and was completed without any side effects being noted. Specimens were again examined five weeks after this treatment. The results of the faecal examinations after each course of treatment are set out in Table CXX.

Bacteriological examination from the faeces of each patient were also made. *Shigella dysenteriae* (Type 2) was cultured from five, pathogenic coliforms from one and a Salmonella from one.

TABLE CXX

Parasite	After First Mass Treatment		After Second Mass Treatment	
	Number of Patients	Per-centage	Number of Patients	Per-centage
<i>E. histolytica</i> trophozoites	1	1	3 (1 was excreting cysts as well)	4
<i>E. histolytica</i> cysts ..	3	4	3	4
<i>E. coli</i> cysts	2	3	4	5
<i>G. lamblia</i> cysts	12	15	11	14
<i>E. nana</i> cysts .. ..	..	..	..	..
<i>I. butschlii</i> cysts .. ..	..	..	..	..
<i>T. trichiura</i> ova	28	35	15	19
Hookworm ova .. ..	..	..	..	..
<i>H. nana</i> ova	2	3	1	1
Total patients ..	79	..	77	..

(b) Palm Island Survey

For many years the aboriginal population of Palm Island has been treated for hookworm infestation. In March, 1964 a survey of 287 aborigines for round worms showed an infestation rate of 10 per cent. and in November 1964, mass treatment with piperazine was given. In March and April, 1965, a further survey was made on random faecal specimens from 379 individuals from all age groups. Subsequently mass treatment for amoebiasis and giardiasis has been instituted. The results of the March-April, 1965, survey are as follows:—

Parasite	Number of Patients	Percentage Positive
<i>E. histolytica</i> cysts	42	11
<i>E. hartmanni</i> cysts	2	0.5
<i>E. coli</i> cysts	160	42
<i>I. butschlii</i> cysts	50	13
<i>E. nana</i> cysts	9	3
<i>G. lamblia</i> cysts	91	24
<i>As. lumbricoides</i> ova	6	2
Hookworm ova	1	0.3
<i>H. nana</i> ova	41	11
<i>T. trichiura</i> ova	295	78
Total patients tested	379	..

Bacterial cultures were made from 88 patients with diarrhoea but no pathogens were grown.

THE TUBERCULOSIS LABORATORY

The laboratory is recognised as the reference centre for tuberculosis and the Anonymous mycobacteria in Queensland. Although there has been a reduction in the number of routine specimens received during the year, numerous cultures have been referred for identification from country centres and interstate. In addition 92 cultures were received from various peripheral laboratories for sensitivity tests with the "second line" drugs.

Due to the introduction of the "Medi-haler" by the Chest Clinic, fewer gastric aspirates have been submitted than formerly and thus fewer animal inoculations have been made. The Anonymous mycobacteria are being isolated with increasing frequency and much time is devoted to the grouping of these strains.

As a routine, sensitivity tests are performed on all newly isolated cultures of *Mycobacterium tuberculosis* and on all Anonymous mycobacteria which grow on two or more of the four culture tubes inoculated from each specimen. The Resistance Ratio technique is employed and each culture is tested with Streptomycin, para-aminosalicylic acid, isoniazid, viomycin, cycloserine and ethionamide. Certain cultures have been tested for sensitivity to Capreomycin and preliminary tests with Phenazine are in progress.

M. tuberculosis was isolated from 231 patients during the year, and no bovine strains were detected.

(a) Primary Resistance of *M. tuberculosis* in Queensland

During the period July, 1962, to October, 1964, cultures from 483 patients were tested for primary drug resistance to Streptomycin, para-aminosalicylic acid and isoniazid. This figure constitutes approximately one-third of the total number of new cases of tuberculosis isolated in Queensland during that period.

The Resistance Ratio method of sensitivity testing was used and only when the resistance ratio was 8 or greater was the organism considered resistant.

There were 33 (6.8 per cent.) of the cultures from untreated patients with resistance to at least one drug, 15 (3.1 per cent.) had resistance to at least two drugs, and five (1.0 per cent.) were resistant to all three drugs.

Resistance to streptomycin appeared in 12 (2.4 per cent.) of cultures, to para-aminosalicylic acid it was 18 (3.7 per cent.) and to isoniazid 23 (4.8 per cent.).

(b) The anonymous or unclassified mycobacteria

The Runyon classification is used for the grouping of the anonymous mycobacteria. This grouping is, however, only carried out when the organism grows on two or more of the 12 tubes of media inoculated from three consecutive specimens. In some cases mycobacteria were isolated from all three specimens but only one of the three cultures in a series was grouped if the organism appeared to be the same in all three. The classification of the Anonymous mycobacteria isolated from 249 patients between 1st July, 1964, and 30th June, 1965, is as follows:—

Group	Number of Patients
I	5 (with 1 isolation)
I	1 (with 2 isolations)
II	43 (with 1 isolation)
II	2 (with 2 isolations)
III	103 (with 1 isolation)
III	9 (with 2 isolations)
III	3 (with 3 isolations)
IV	8 (with 1 isolation)
IV (<i>M. fortuitum</i>)	36 (with 1 isolation)
IV (<i>M. fortuitum</i>)	1 (with 2 isolations)
I and II	2
I and IV (<i>M. fortuitum</i>)	1
II and III	10
II and IV	2
II and IV (<i>M. fortuitum</i>)	5
III and IV	4
III and IV (<i>M. fortuitum</i>)	7
II, III and IV	1
II, III and IV (<i>M. fortuitum</i>)	2

Patients from whom only Group III Mycobacteria were recovered numbered 115 and from 22 of these the same organism had been isolated in previous years. Besides the above isolations on two or more tubes, Anonymous mycobacteria were cultured from 319 additional patients on one tube only and these were not grouped. Of these 196 were non-chromogenic and 123 were chromogens. *Nocardia asteroides* was isolated from four patients.

From one patient who had been under observation for 10 years, Anonymous mycobacteria were isolated repeatedly. A Group III (Battey type) culture was cultured on numerous occasions during this period. In 1964, at the age of 63, he died suddenly from a cerebral injury and extensive fibrocaseous lesions were found in the right lung from which a Battey type organism was cultured. At no time was there any evidence of an infection with *M. tuberculosis* either by culture or repeated animal inoculations.

(c) Sensitivity tests with Capreomycin

Cultures from patients have been tested for resistance to Capreomycin. The results are set out hereunder:—

Organism	Sensitive	Resistant
<i>M. tuberculosis</i>	7	2 (probable)
Group II mycobacteria (Scotochromogens)	2	1
Group III	5	..
Group IV (<i>M. fortuitum</i>)	2	1
<i>Noçardia asteroides</i>	1	..

(d) Trial of N-acetyl-L-cysteine for sputum digestion and decontamination

A trial of a new mucolytic agent (N-acetyl-L-cysteine) as a sputum digestant for the isolation of mycobacteria was carried out using a modification of the technique recommended by Kubica (Amer. Rev. Resp. Dis., 1963, 87,775).

Each specimen was divided, half being treated with 4 per cent. sodium hydroxide and half by this new technique. In all 250 specimens were tested and these included sputum, gastric aspirates, urines, pleural fluid and lung tissues.

The contamination rate after using the N-acetyl-L-cysteine method was 40·5 per cent. and with the 4 per cent. NaOH method 5·7 per cent. *M. tuberculosis* was grown from eight of the 250 specimens with each method.

As the acetyl cysteine failed to decontaminate adequately the method was considered unsatisfactory and was discarded.

PREGNANCY TESTS

Further evaluation of the “Gravindex” rapid slide test has been carried out with follow-up of patients tested. Information was available for 132 patients whose urine was tested and the result of the test was regarded as correct in 117 (88·6 per cent.), and incorrect in 15 (13 false negative and 2 false positive results). The consolidated figures for the four methods evaluated are as shown in the table below.

It should be pointed out that specimens are received in this laboratory from all parts of Queensland—including Thursday Island—and not infrequently delays in transit of some days may occur. In some cases the clinical information accompanying specimens is meagre or absent, and the follow-up information on which the assessment of the result is based may be unreliable in a few instances. For these reasons it is not possible to interpolate the above findings into a situation where close liaison between clinician, laboratory and patient might exist. For conditions obtaining in this laboratory it is considered that at the present time the “Gravindex” test is preferable because of the speed and simplicity of the test and the lower number of false positive results even though it is clearly less sensitive than either the “Pregnosticon” or “U.C.G.” tests. Optimum results could be obtained by using the “Gravindex” test to screen all specimens submitted and re-testing specimens giving a negative reaction with either “Pregnosticon” or “U.C.G.”. It is debatable whether the increase in accuracy would justify the additional expense involved.

HISTOPATHOLOGY

During the year 7,167 biopsy specimens were submitted and from these 11,539 slides were prepared and examined. From necropsy tissues from country areas 450 slides were examined.

Amongst the routine biopsy material the following are of epidemiological and pathological interest: Chromoblastomycosis (8 cases), Maduromycosis (1), Leprosy (9), “Cat scratch” lymphadenitis (4), Filariasis (1), Melanoma (51), Renal papillary necrosis (8).

CYTOLOGY

The number of specimens submitted for cytological diagnosis has decreased slightly over the past year. A follow-up study of specimens submitted by the Chest Clinic during 1963 showed a marked reduction in the efficiency of this method of diagnosis for carcinoma of the lung. In previous years 60 per cent. to 65 per cent. of patients with

carcinoma of the lung have had one or more positive specimens whereas in 1963 malignant cells were found in only 35 per cent. of such cases. The reason for this decline is as yet unexplained but various modifications of technique have been tried in order to improve results. At present the procedure advocated by Gray (1964, Lancet ii, 549) has been adopted. Specimens are embedded in paraffin and sections cut at three different levels are stained with haematoxylin and eosin. It is too early to assess the accuracy of this procedure, but the impression is that a more representative sample of the specimen is available for examination than with smear preparations, and in many cases the malignant cells are found in fairly large clumps instead of being spread throughout a smear, thus increasing the ease of recognition. The practice of examining sections at three levels seems to produce a significant and worth while increase in accuracy as in the last 50 specimens reported as positive only 39 would have been detected if sections from one level alone had been examined. This improvement is of the same order as that found by Gray, and it will be of interest to determine by follow-up of patients if our detection rate of cases with lung cancer approaches the 80 per cent. level which she records.

THE INSTITUTE OF FORENSIC PATHOLOGY

During the year 944 coronial necropsies were performed, an increase of 63 on the previous year. The work involved in these necropsies will be eased considerably by the appointment of the additional pathologist. Many of the cases involve extensive investigation and it is only after bacteriological, virological, biochemical and histopathological examinations are completed that a certificate is issued. The excellent co-operation of the Government Analyst’s Department is much appreciated in the elucidation of many of the medico-legal problems.

Dr. D. J. Brand, a Research Fellow of the National Heart Foundation, has been making a detailed histological examination of the hearts of persons under the age of 40 years who die suddenly from some accidental cause. To date he has studied over 1,200 sections from 70 hearts and has found a wide variety of interesting histological lesions. The significance of this work is as yet not determined but it might well give pathologists cause to reorientate their interpretation of microscopic cardiac lesions.

The staff have participated in a survey of the incidence of myocardial infarction and coronary atherosclerosis which is being conducted by the International Society of Geographical Pathology, on a world-wide basis.

A project to determine the incidence of cerebral and pulmonary fat embolism in traffic accidents has been carried out by a medical student during the year.

In an attempt to assess the standard of coronial necropsies conducted throughout the State, copies of these necropsy reports are forwarded to the Institute for scrutiny. In the 12 months ending December, 1964, 1,096 autopsies were performed and 1,031 reports were received. The data is indexed according to locality and cause of death and much valuable information is being accumulated. When necessary the doctor or coroner is contacted for additional information. Letters are issued periodically giving advice concerning autopsy technique on the forwarding of specimens for microscopic or analytical examination. Increasing use is being made of the laboratory for the histological examination of post-mortem tissues from country centres.

Information is badly needed concerning traffic accidents in the country as their causes and results are often different from those in the metropolitan area. A number of Government Medical Officers are co-operating in a survey which is being conducted and are submitting detailed information regarding accident circumstances and injuries to participants from traffic accidents in their locality.

The problem of senior staff members having to attend Courts both in the city and country centres becomes steadily worse. Often these court proceedings cause interruption to routine work and it becomes increasingly difficult for officers to organise their leave. There appears to be no easy solution to this problem but the situation would be eased if statements were accepted in the lower courts and a personal appearance dispensed with. Not infrequently two or three days are occupied in long and costly journeys for the sake of a few minutes’ appearance in court to give a simple routine

—	Number of Tests	Correct Results	False Positive	False Negative
Male Toad Test	140	118 (84·3%)	0	22 (15·7%)
“Pregnosticon”	247	233 (94·3%)	10 (4·0%)	4 (1·6%)
“U.C.G.”	371	343 (92·4%)	10 (2·7%)	18 (4·9%)
“Gravindex”	132	117 (88·6%)	2 (1·5%)	13 (9·9%)

statement on which no cross-examination is given. It would seem that much time and expense could be saved if such evidence could be admitted by agreement between the legal representatives for the prosecution and defence.

The laboratory work at the Institute has increased greatly during the year, not only from routine investigations but also from the research projects in progress.

“BATTERED CHILD” SYNDROME

Five fatal cases of the “battered child” syndrome have been recognised since 1957, the last after a free interval of two years. There were 2 males aged 2½ and 4 years and 3 females aged 19 months, 14 months and 13 months. The cause of death was subdural haemorrhage in each of 3 females, acute respiratory infection in one male and traumatic asphyxia in the other two male children.

“COT DEATHS”

Sudden unexpected deaths in infants have been investigated at the Institute of Forensic Pathology as in the past and the Social Worker has maintained her extremely valuable liaison with the parents of such children. In the last twelve months 24 deaths of this type have occurred in Brisbane. Attempts to isolate viruses from these cases have been unsuccessful in the great majority, both in Brisbane and in published series from other countries. During 1964, however, influenza A₂ (North Carolina 1963) virus was recovered from three cases in Brisbane and from one case in Toowoomba. At that time this virus was epidemic in the community. Its isolation serves to emphasize the impression that these deaths cannot be attributed to any single etiological agent whether viral, bacterial or allergenic, but rather to the unique response which probably only a very small minority of infants are capable of making to several types of provoking stimuli.

Recently enteroviruses were isolated from the faeces of two “cot death” infants. One was identified as echovirus type 13 and one is as yet unidentified. Various organs from each child were cultured but no virus was isolated.

SUDDEN DEATHS IN ASTHMA

Sudden death in asthmatics is not uncommon and during the last 10 years 64 such cases have been referred to the Brisbane Coroner for necropsy. There is no real evidence to suggest that these deaths are becoming more common. In most cases the necropsy findings show merely emphysema and blockage of the bronchi and bronchioles with clear, sticky mucoid secretion. It is unlikely that the solution to these sudden deaths will rest on the pathological examination alone.

In November, 1964, sudden unexpected deaths occurred in three asthmatics all of whom had been using orciprenaline inhalers, probably to excess, prior to their deaths. Investigations of the history of these and other similar patients indicates the danger of using adrenalin with isoprenaline. No such warning was indicated on either the carton or pamphlet accompanying the inhalers in use, and in addition there is a real danger that overdosage with self-administered aerosols can easily occur.

A study should be made of all unexpected sudden deaths in asthma and this can only be achieved by close collaboration between the clinician and pathologist. It is of paramount

importance to have full and accurate information concerning the therapeutic regime and the method of administration of the drugs. Such details are more likely to throw light on the cause of death than the pathological findings.

PRIVILEGED INFORMATION AND TRAFFIC INJURY RESEARCH

The Traffic Injury Subcommittee of the National Health and Medical Research Council has long been apprehensive about investigators of traffic injuries being involved in medico-legal proceedings. The validity of the information collected by research workers in this field is largely dependent upon the legal protection of this information. This applied particularly to the Accident Research Team in Brisbane, comprising a doctor, an engineer and a social worker, which was engaged in an “on-the-spot” investigation of accidents and subsequent confidential interviews with the participants. In one case subpoenas were issued to the members of the research team in Brisbane and it became apparent that there was a need for protection of this highly confidential research data, if the investigation was to continue and to produce information of value. As a result the Queensland Health Act was amended. (Health Acts Amendment Act of 1964 No. 71, Part IVC, Scientific Research and Studies). Under this Act, privilege is not afforded the research worker, but his evidence is made inadmissible in any legal proceeding. The Act is worthy of close study as it is of very great importance and will serve as a precedent for other States. It is also applicable to other sociological investigations involving the collection of confidential information.

PUBLICATIONS

- BATTEY, Y. M., and SMITH, D. J. W. (with BARROW, G. J.), (1964): “The epidemiology of Leptospirosis in North Queensland, II. Further observations on the hosts in Mossman District,” *J. Hyg., Camb.* 62, 485.
- BLACKLOCK, Z. M. (with CLARKE, J. R.), (1965): “The use of Chlorhexidine and Savlon for cleaning Medihaler mouthpieces,” (in the press).
- BLACKLOCK, Z. M. (with CLARKE, J. R. and SILVERSTONE, H.), (1965): “The use of Sulphur Dioxide as an aid to Bacteriological diagnosis in Pulmonary Tuberculosis,” (in the press).
- BLACKLOCK, Z. M. and SUTTON, M. F., (1965): “Primary Resistance of *Mycobacterium tuberculosis* in Queensland,” (in the press).
- SMITH, D. J. W. (with EMMANUEL, M. L. and MACKERRAS, I. M.), (1964): “The epidemiology of Leptospirosis in North Queensland, I. General survey of the Animal Hosts,” *J. Hyg., Camb.* 62, 451.
- SMITH, D. J. W., (1964): “Leptospirosis in Queensland,” *Qld. Health*, I, 1.
- STALLMAN, N. D., (1965): “A note on the Capillary Agglutination test in the diagnosis of Q fever,” (in the press).
- TONGE, J. I., O'REILLY, M. J. J., DAVISON, A. (with DERRICK, E. H.), (1964): “Fatal Traffic Accidents in Brisbane,” *Med. J. Aust.*, 2, 811. Abstract Rep. Sci. Meet. Coll. Path. Aust., 1964, 4, 28.
- TONGE, J. I., (1964): “Safety Belts”, *Trephine*, 24, 27.

QUEENSLAND GOVERNMENT CHEMICAL LABORATORY

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The Government Chemical Laboratory provides a chemical, analytical and advisory service for State Government Departments, a complete service in Queensland for the Commonwealth Departments of Customs and Excise and of Primary Industry, and carries out analytical work for other Commonwealth Departments, including the Defence Forces, and for the Territory of Papua and New Guinea.

A record number of 32,888 samples was examined during the twelve month period, the following table (Table CXXI) indicating the numbers of samples examined in each of the preceding five years:—

TABLE CXXI

Year				Total Number of Samples
1959-60	..	..	..	24,286
1960-61	..	..	..	27,553
1961-62	..	..	..	29,133
1962-63	..	..	..	26,023
1963-64	..	..	..	31,993
1964-65	..	..	..	32,888

The analytical work of the Laboratory covers an extremely wide field in meeting the needs of the various Departments, both State and Commonwealth, and it is doubtful if any other laboratory in Australia undertakes such a variety of analyses. As such it provides an excellent training ground for young chemists and it is a matter of policy to give them a period of service in each section of the Laboratory.

The following table (Table CXXII) shows the numbers and sources of samples examined in the past twelve months:—

TABLE CXXII

SHOWING SOURCES AND NUMBERS OF SAMPLES

Source	Number
State Departments—	
Health	7,578
Health (explosives)	2,853
Police	237
Coroner	832
Mines	44
Geological Survey	1,947
Coal Board	1,431
Harbours and Marine	172
Irrigation and Water Supply	2,383
Local Government	275
Railways	81
State Stores	702
Works	1,159
Housing Commission	5,858
Micro-Biology and Pathology	534
Government Medical Officer	380
Industrial Medicine	165
Others	919
Commonwealth Departments—	
Primary Industry	2,774
Customs and Excise	1,342
Others	104
Hospital Boards	832
Medical Profession	119
Public	167
	<hr/>
	32,888

The staff position has been made difficult due to the loss of two senior officers and, as yet, no suitable chemists being available to fill the vacancies so created.

Accommodation problems will be relieved for the time being by the addition of two laboratories in the building at the corner of William and Alice Streets formerly occupied by the University of Queensland Physiology School. Alterations to these laboratories are now approaching completion. Portion of the former darkroom in the main laboratory has now been converted to a small laboratory and has been in use for some months, chiefly for pesticide residue analyses.

Additional accommodation will also become available when the Laboratory of Micro-Biology and Pathology moves to the new Health building.

Research work being carried out in the Laboratory includes an investigation into the best practical methods for detecting and determining halogenated hydrocarbon and organic phosphate pesticide residues in meat and other food-stuffs, an extremely difficult task when combinations of these types of pesticides are present. On behalf of the Health Department and in conjunction with the Brisbane City Council a continuing survey is being conducted into the possible pollution of Brisbane River and Moreton Bay waters. With the advent of fluoridation of some public water supplies in Queensland an over-riding control is also being kept on the level of fluoride in the reticulation systems and on the quality of the chemicals used. A comprehensive survey of flours and breads from all over the State has been carried out and regular testing of drugs and medicines used in the Queensland Hospitals system is being performed.

Visits to Melbourne were made by three senior members of the staff during the year; one to a meeting of Commonwealth Analysts to discuss methods of analysis for pesticide residues; one to be briefed in the new Brussel's nomenclature for Customs tariff purposes; and one to visit a number of specialized institutions concerned with textile testing. It is interesting to note that this Laboratory, on behalf of the State Stores and the Railway Department, last year carried out the testing of 60 varieties of textiles, relating to the purchasing for Governmental purposes of over three-quarters of a million yards of cloth, valued at some £350,000. It is hoped to obtain further textile testing apparatus this year.

Modern instruments, purchased during the last few years, have contributed very materially to the work of the Laboratory. Analyses which were virtually impossible prior to their advent can now be carried out with ease and accuracy. In these days of highly specialized and sophisticated chemistry it is essential that the Laboratory should be kept up to date in its apparatus and techniques.

The Laboratory also administers the four Government bulk explosives magazines, the testing for safe storage, transport and use of all industrial explosives entering the State, and the issuing of all licenses under The Explosives Acts and Regulations. A report on the administration of "*The Explosives Acts, 1952 to 1963*," is appended.

The Chief Inspector of Explosives and the Field Inspector attended the Eighth Australian and New Zealand Explosives Conference held in Wellington, New Zealand in February.

Sectional reports which follow show in some detail the work of the Laboratory.

SECTION 1

FOODS, DRUGS AND WATERS

H. G. DUNSTAN, B.Sc., A.R.A.C.I.—Officer in Charge

Table CXXIII gives the source and number of the samples examined.

TABLE CXXIII

Department	Number of Samples
Health	7,446
Irrigation and Water Supply	2,383
Other Government Departments	726
Local Government	275
Public	160
Total	10,990

TABLE CXXIV

Summary of samples of foods, drugs and articles examined for the Department of Health.

Nature of Sample						Number of Samples
Beverage or cordial	..	..	..	..	..	371
Bread	..	..	..	..	..	392
Cereal	..	..	..	..	..	130
Condiment	..	..	..	..	..	10
Confectionery	..	..	..	..	..	31
Fish	..	..	..	..	..	42
Fruit	..	..	..	..	..	23
Meat	..	..	..	..	..	361
Milk—official	..	..	..	..	..	3,141
Milk—unofficial	..	..	..	..	..	72
Milk product	..	..	..	..	..	79
Spirit, wine or beer	..	..	..	..	..	79
Vegetable	..	..	..	..	..	15
Miscellaneous food product	..	..	..	..	..	280
Disinfectant or insecticide	..	..	..	..	..	42
Drug or medicine	..	..	..	..	..	309
Paint or paint scraping	..	..	..	..	..	146
Pencil	..	..	..	..	..	25
Tobacco	..	..	..	..	..	275
Toilet preparation	..	..	..	..	..	44
Toy	..	..	..	..	..	27
Miscellaneous	..	..	..	..	..	213
Total	..	..	..	..	..	6,107

The miscellaneous samples include suspected bait, empty barrel, bleach, case hardener, dust from railway wagon, fire-wood, flock, jug, saucepan, seasoning, soil and vaporiser.

TABLE CXXV

Details of of legal samples taken by Inspectors in accordance with the provisions of "The Health Acts, 1937 to 1964."

Nature of Sample				Number Examined	Passed	Failed
Milk	..	..	..	3,141	2,976	165
Minced meat	..	..	..	195	136	59
Sausage	..	..	..	102	69	33
Paint scraping	..	..	..	91	91	0
Paint	..	..	..	30	7	23
Toy	..	..	..	11	11	0
Cream	..	..	..	7	1	6
Spirituous liquor	..	..	..	2	0	2
Bread	..	..	..	1	1	0
Miscellaneous	..	..	..	3	3	0
Totals	..	..	..	3,583	3,295	288

MILK

The results obtained from 3,141 legal samples of milk were similar to those of preceding years and the standard remained satisfactory.

The finding were:—94·8 per cent. conformed with the prescribed standard, 1·9 per cent. were deficient in fat, 2·8 per cent. were deficient in solids other than fat, and 0·5 per cent. contained added water.

The watered milks (17) were obtained at Barcaldine (2), Booval (1), Cairns (4), Coolangatta (6), Home Hill (2), and Mackay (1).

Pasteurised milk samples were regularly tested and found to be correctly pasteurised.

Small proportions of chlorinated pesticides were detected and further periodical tests will be made.

Flavoured milks were found to meet requirements.

Samples of milk in one-third pint plastic-lined cardboard cartons were examined and these packages were found satisfactory.

MEAT

Sulphur dioxide was found in 59 of the 195 samples of minced meat.

Analysis of 102 legal samples of sausages or sausage meat showed 15 below the standard in meat content, 14 with excess preservative and seven with less starch than the prescribed minimum (3·0 per cent.).

Other special-name types of sausages were also examined and were satisfactory.

A survey of meat pies was continued into this year and 51 samples were taken. The standard requires 25 per cent. of meat of which one-third may be meat fat.

Eighteen samples met this requirement and 14 were in the range 20–25 per cent. It was observed that the fat content averaged only 2·6 per cent. and that 35 pies contained the implied lean meat content of 16½ per cent. Preference would seem to favour a less greasy pie.

The canned meats examined (24) included faulty packs of corned beef and cereal and ham. Iron stains in cans of Camp Pie were found due to a poor quality tinplate.

FLOUR

Sampling at flour-mills was more regular this year and 129 samples were received. Only a few slight deficiencies in wholemeal content and in protein content were discovered but a high rate of inspection is warranted to ensure the maintenance of the standard of this important foodstuff.

The white flour examined had an average protein content of 11·9 per cent. and was suitable for baking good quality bread.

BREAD

Three hundred and nine-two samples of bread, obtained from 47 towns, were examined for both composition and quality.

Most of the breads conformed with the prescribed standard of composition but some small deficiencies in whole-meal, protein and milk solids were found. The fruit breads were less satisfactory in that half of the samples contained insufficient fruit. Two underbaked loaves contained excess water.

Quality of the bread was given close scrutiny. Usually, two assessors judged the loaf considering volume, colour, and evenness of crust, colour and texture of crumb, degree of baking, odour and taste and cutting quality.

Of 392 samples, only 13 were judged below fair quality and these comprised 9 underbaked, 3 of low volume, 1 of poor crumb structure and 1 crumbly when cut.

On the results the standard of bread must be regarded as satisfactory.

A further 70 loaves were tested for the Department of Weights and Measures. The weight of dry substance is determined in these loaves and, in some, the proportion of milk solids.

SOFT DRINKS

A large number (366) of soft drinks and cordials, obtained throughout Queensland, showed 20 failing to conform. Excess preservative occurred in 17 of these and 3 fruit drinks had less than the required proportion (5 per cent.) of fruit juice.

The colourings used in these soft drinks were identified and, without exception, were permitted food colourings.

In a few instances it was found that bottles were over-filled leaving little or no headspace and making explosion possible.

WINE

Wines of Queensland manufacture were examined fully and of 50 samples, 4 contained excess soluble chloride and 2 contained more than the permitted maximum (2 parts per million) of lead.

JAM

Raspberry, plum, apricot and strawberry jams were surveyed. Four samples of raspberry jam were found deficient in fruit.

CONFECTIONERY

The one fault found in 31 samples of confectionery was the presence of a non-permitted dye—Rhodamine B—in the products of one manufacturer. This resulted in prosecution.

ICE CREAM

Few faults were found in 47 samples of ice cream and related products.

Two ice creams were slightly below the required 10 per cent. of milk-fat and one flavoured ice below 5 per cent. of fat. The milk-fat in the ice cream was found genuine when tested by gas chromatography.

DRUGS AND MEDICINES

A survey of headache preparations (18 samples) found two which did not agree closely enough with the declared compositions. Also, the average weight of the powders of one brand was lower than stated and there was excess variation in the weights of the powders of another brand.

Proprietary medicines were analysed for the presence of harmful or restricted drugs and opinion given on the admissability of claims advanced.

Many samples were checked on the requests of the public but showed no irregularity.

Samples (57) received from the Dispensary of the Brisbane General Hospital included medicine, drugs, prepared solutions and containers. This work is increasing and is a valuable safeguard of purity and conformity of hospital stocks.

Sodium fluoride for use as additive to water supplies was tested for conformity with The British Pharmacopoeia.

Quantities of deteriorated drugs were received for safe disposal.

PESTICIDES

Formulations (15) were analysed and the nature and percentage of active pesticide found.

A systematic survey of fruits and vegetables for residues was beyond the capacity of the section and few samples were examined. These included apples (7 samples), potatoes (4), cucumber (2), pears (1), bananas (1), cherries (1).

The cherries were heavily contaminated with parachlor-metaxylenol (2,000 parts per million) and were condemned.

Residues in the other samples were small.

REGULATIONS

"The Food and Drug Regulations, 1964" published on the 24th November, 1964, superseded previous regulations and amendments and included further changes of standards to Australian uniform standards.

MISCELLANEOUS

Vegetable oils (8)—maize, soya bean, peanut, safflower, sunflower, olive and two blended oils—were genuine and in sound condition.

Samples of jelly crystals (13), coconut (5), icing sugar (5), pickles (6), vanilla essence (4), were satisfactory.

None of the 91 legal samples of paint failed on lead content whereas most of the scrapings of old paint contained above 5 per cent. of soluble lead.

Of the 26 toys examined two were made of lead alloy and two contained lead in the paint.

Bedding and upholstery filling materials (17) were tested according to the regulations and 10 failed to meet the requirements.

Seventy-five preparations were examined for composition, packaging and labelling under the provisions of "The Dangerous Substances Regulations". These included pesticides, cleansers, disinfectants, leather dyes, cements, solvents and cosmetics.

Toothpastes consisted of calcium carbonate, calcium phosphate, calcium sulphate, similar magnesium compounds, and siliceous material, either singly or in combination together with soaps, detergent, glycerol and flavouring and in some fluoride and antiseptic substance. Six tubes contained lead and in the first quarter inch of paste from these tubes there was found 146, 66, 54, 37, 32 and 24 parts per million of lead.

Twenty-five samples of cream were examined. Deficiency of milk-fat was found in 2 samples.

WATERS SUB-SECTION

A record number of 4,686 samples of water, sewage, and industrial waste was examined during the year.

The sources of these samples and the corresponding number of samples from each source are tabulated below:—

TABLE CXXVI

Source	Number of Samples
Water—	
Department of Health	1,339
Irrigation and Water Supply Commission ..	2,383
Department of Local Government	275
Department of Harbours and Marine	172
Miscellaneous State Government Departments ..	191
Miscellaneous Commonwealth Government Departments	50
Public	152
Sewage—	
State Government Departments	124
Total	4,686

Large increases in the numbers of samples received from the Irrigation and Water Supply Commission and the Department of Health and a smaller increase in samples from the Public were responsible for the record number of samples handled by the Waters Sub-Section during the year.

Drought conditions are no doubt responsible for some increase in samples from the Irrigation and Water Supply Commission and the Public and to a lesser extent from the Department of Health. However, the increasing search for water suitable for agricultural and stock watering purposes, in this State, is receiving an added stimulus as a result of the activities of the Australian Water Resources Council in its efforts to discover and make available, for rural use, additional supplies of water of suitable quality from both surface and underground sources. The Irrigation and Water Supply Commission will undoubtedly be empowered to carry out the major part of the investigations on behalf of the Water Resources Council in Queensland with the result that greater numbers of samples can be expected to be collected and forwarded for analysis in the future.

A survey of the waters of Moreton Bay near the mouth of the Brisbane River and of the river itself, in connection with possible pollution of these waters by sewage effluent, is mainly responsible for the substantial increase in the numbers of samples received from the Department of Health. This investigation is to continue for some time in order to obtain analytical results covering all seasons of the year.

The Brisbane City Council is carrying out a similar survey with the emphasis on bacterial examinations.

There has been no decrease in the numbers of samples of water submitted by the Geological Survey and Mines Department on behalf of the various companies engaged in the search for oil and gas in Queensland. Some of these samples are contaminated by drilling muds of varying composition which makes satisfactory analysis difficult. Analyses of the water at different depths in a bore can provide useful information in the search for oil and gas bearing strata.

It is of interest to note that one water sample taken from Log Creek No. 1 Bore at a depth of 13,000 feet contained over 20 per cent. of dissolved solids (nearly seven times as great as the dissolved solids content of sea water) consisting essentially of Sodium, Calcium and Magnesium chlorides.

SECTION 2

TOXICOLOGY, BIOCHEMISTRY AND INDUSTRIAL HYGIENE

J. C. YULE, B.Sc., A.R.A.C.I.—Officer in Charge

TOXICOLOGY

Of the 863 specimens examined, 782 were in connection with 276 post-mortem examinations. The majority of these were at the request of Coroners throughout Queensland.

Poisons, and drugs in poisonous quantities were found in specimens from 195 of these post-mortem examinations. Barbiturates were again most commonly found (149 cases) and included pentobarbitone (67), Carbrital (19), Amytal (19), Tuinal (4), butobarbitone (4), barbitone (5), Seconal (3), and in 28 cases, mixtures of barbiturates were present. Other drugs and poisons found were:—ethyl alcohol (4 cases), chloral (9), carbon monoxide (4), arsenic (2), chloroquin (2), doloxene (2), phenacetin (2), cresol (2), Melleril (2), methadone (2), aspirin (2), cyanide (1), strychnine (1), nicotine (1), Tofranil (1), Migral (1), and mixture of drugs (usually mixtures of tranquilisers and other drugs) were found in 8 cases.

The remaining 81 examinations did not reveal any poison but were considered necessary to exclude this as a possible cause of death. In 25 of these cases, however, drugs in therapeutic quantities were found.

Other specimens examined included dog viscera and poison baits, turkey viscera, water, soil, drugs, cosmetic, &c.

Twenty-one specimens from a number of arson cases were examined.

A gas refrigerator was examined and it was found that, at times, (probably due to a faulty valve) dangerous quantities of carbon monoxide were produced. The flue gases could, in a confined space, build up to a level which would prove fatal.

The Administration of the Territory of Papua-New Guinea submitted 35 specimens mainly in connection with post-mortem examinations.

Evidence was given in court on 31 occasions.

The volume of work in toxicology again increased during the year. In recent years there has been a large increase in the number of post-mortem examinations where a search for poisons or overdoses of drugs was required. This has paralleled the increasing use of barbiturates and these drugs have become increasingly common as agents of self destruction.

As an example in 1949-50, 46 post-mortem examinations revealed arsenic (7 cases), strychnine (5), cyanide (1), mercury (1), barbiturate (2), paraldehyde (1), phenol (1), and kerosene (1 case). This year poisons (arsenic, cyanide, strychnine, &c.) were found in 11 cases, but barbiturates in toxic quantities were found in 149 cases. It was found this year again that alcohol was frequently present with barbiturate, increasing its effect.

The barbiturates and tranquilisers now used are much more numerous and frequently more potent than those used years ago. It is therefore necessary for the chemist to detect drugs in ever decreasing quantities and to develop methods for determining new drugs. This has been facilitated in recent years by the acquisition of ultra-violet and infra-red spectrophotometers and a gas chromatograph. It is hoped that next year an atomic absorption spectrophotometer can be obtained by the Laboratory to enable trace quantities of many of the elements to be measured much more speedily and specifically.

However, due to the increasing number of cases and the shortage of staff, the work of this section throughout the year has been mainly of a routine nature.

The position in toxicology over the last ten years is outlined below:

TABLE CXXVII

Year	Number of Post-Mortem Examinations	Poisons (including Arsenic, Strychnine, Cyanide, Tar Acids, &c.)	Barbiturates (in Toxic Quantities)	Drugs other than Barbiturates (in Toxic Quantities)
1955-56	89	11	30	5
1956-57	86	9	35	7
1957-58	88	7	36	9
1958-59	114	17	54	7
1959-60	125	15	42	9
1960-61	127	14	48	11
1961-62	176	9	94	12
1962-63	189	11	96	14
1963-64	266	13	133	33
1964-65	276	11	149	35

BIOCHEMISTRY

Biochemical specimens were examined from the Laboratory of Microbiology and Pathology, Government Medical Officers, Police Department, Director of Industrial Medicine, Hospitals and Medical Practitioners. The nature, significance and number of such specimens are shown in Table CXXVIII.

TABLE CXXVIII

Nature of Specimen and Significance	Number of Specimens
Blood and Urine for Alcohol (specimens taken in connection with traffic charges)	383
Blood and Urine for Alcohol (post-mortem specimens chiefly in connection with traffic accidents) ..	481
Blood and Urine for Drugs	334
Stomach Washing for Drugs	39
Blood for Carbon Monoxide	22
Urine, Blood, Bone for Lead	964
Hairs, Nails, Urine for Arsenic	72
Urine for Thallium	7
Miscellaneous	54
	2,356

The miscellaneous item included drugs for identification, urine for mercury, water for lead and zinc, fat for chlorinated hydrocarbons, and samples examined in connection with a "Clinical Dinner" at which a breathalyser was demonstrated.

INDUSTRIAL HYGIENE

Excluding biochemical specimens, the number of samples examined for the year was 87.

Twelve investigations were undertaken during the year. Some of these were:—

- The operation of a fumigation chamber using ethylene dibromide.
- Heat stress conditions at a tobacco processing plant and cannery.
- Dust hazards during bulk barley handling, silica grinding and sand blasting.
- Lead in air at the premises of a lead manufacturer.
- Benzene in air at the Railway Workshops.
- The handling of mercury during purification operations.

Samples examined included—neon tubes for beryllium content; rock, sand, soapstone for free silica content; and solvents for determination of composition.

SECTION 3

Mines, Minerology and Metallurgy

V. R. CUNDITH, B.Sc., F.R.A.C.I.—Officer in Charge

Table CXXIX shows the sources of work done by this Section and the number of samples from each to account for the total of 3,793 samples.

TABLE CXXIX

Department	Number of Samples
Geological Survey and Mines Department ..	1,991
Coal Board	1,431
Other Departments	321
Commonwealth Departments	35
Public	15
Total	3,793

GENERAL

The greater proportion of the wet assay work was in connection with the ores of lead, copper, zinc, manganese, cobalt, tungsten, tantalum, indium, thorium, rare earth oxides, antimony, bismuth, nickel, tin, &c.

In addition there were the usual assays for gold and silver and ore treatment tests.

The growing importance of geochemical methods being applied to the detection of deeper ore bodies is reflected by the receipt of 381 samples submitted for the determination of metals of economic importance.

The proportions of copper, nickel, chromium, &c., found in these ranged from 1 to 5,000 parts per million and their estimation involved rapid techniques to furnish results which could be of significance to the geologist.

The samples may be cores taken during drilling surveys or from soil or subsoil.

ANALYSES

A. Rock Analyses

A number (22) of rock samples was submitted for full analysis. The results for two of these are given—

	Trachyte ex Mount Juillerat	Spilite ex Pullenvale
	Per cent.	Per cent.
Silica (SiO ₂)	59.3	42.5
Alumina (Al ₂ O ₃)	17.8	14.6
Ferric Oxide (Fe ₂ O ₃)	5.0	4.4
Ferrous Oxide (FeO)	2.61	3.68
Magnesia (MgO)	0.14	5.4
Calcium Oxide (CaO)	1.60	14.8
Sodium Oxide (Na ₂ O)	5.1	2.7
Potassium Oxide (K ₂ O)	4.8	1.0
H ₂ O+	1.5	2.66
H ₂ O—	0.9	0.34
Carbon Dioxide (CO ₂)	0.14	5.8
Titania (TiO ₂)	0.43	1.8
Phosphorus Pentoxide (P ₂ O ₅)	0.15	0.22
Manganese Oxide (MnO)	0.19	0.12

B. Ilmenite

	Per cent.	Per cent.
Ferrous Oxide (FeO) ..	18.0	15.6
Ferric Oxide (Fe ₂ O ₃) ..	26.1	25.0
Titania (TiO ₂) ..	53.3	52.8
Chromium Oxide (Cr ₂ O ₃) ..	0.007	0.016

C. Gold, Silver ores (high silver content)

Gold (per ton)	3 dwt.	4 dwt.	1 dwt.	trace
Silver (per ton)	834 oz	830 oz	2,292 oz	99 oz
Lead (per cent)	39.0	27.0	49.8	2.9
Copper (per cent)	0.8	0.8	..	..
Zinc (per cent)	2.1	2.3	..	..

D. Crude Oils

A number of crude oils of Queensland origin was submitted. Analyses of two typical crudes are as follows:—

Nature of Oil	Condensate	Crude
Odour	Sweet	Sweet
Specific Gravity 60/60°F ..	0.738	0.737
Kinematic Viscosity 100°F Cks. ..	0.724	0.554
A.P.I. Gravity 60°F ..	60.2	60.5
Pour Point °F ..	Less than 20	Less than 10
Flash Point °F ..	Less than 50	Less than 50
Basic Sediment—(per cent.) ..	Nil	0.05
Sulphur Content (per cent. weight)	Less than 0.1	0.10
Calorific Value (B.Th.U./lb.) ..	20,180	20,170

I.P., A.S.T.M. Distillation—	°C	°C
Initial B. Pt First Drop	27	40
5 per cent. over at ..	37	57
10 per cent. over at ..	57	67
20 per cent. over at ..	75	88
30 per cent. over at ..	90	103
40 per cent. over at ..	101	119
50 per cent. over at ..	110	131
60 per cent. over at ..	123	160
70 per cent. over at ..	138	212
80 per cent. over at ..	173	284
Residue at room temperature	Dark-brown solid	Dark-green solid

E. Gases

The tempo of work in respect of analyses of gases is increasing. Samples of this nature arise from "search for oil" projects, mine air, compressed air for skin diving equipment, anaesthetics and solvents.

The conventional combustion methods formerly used for bore gas analyses could be unreliable in differentiating wet from dry gas and were useless in the separation of the methane, higher homologues and isomers.

However, the advent (4½ years ago) of the gas chromatograph into the Laboratory has remedied these deficiencies and proved a boon in the prosecution of this work.

A gas chromatograph technique has been evolved for the determination of benzene in bore waters. Experience in America has indicated that the quantity of dissolved benzene has diagnostic value in the search for oil. The gas chromatograph has been extensively used for the detection and estimation of pesticide residues in foodstuffs.

The range of its application has been extended and now the petroleum work requires the full time use of a chromatograph with modern accessories.

Natural Gas Analyses—	1	2	3
Methane (per cent.) ..	25.1	28.9	91.6
Ethane (per cent.) ..	14.2	15.1	2.5
Propane (per cent.) ..	26.9	25.1	0.29
Butane—			
Iso (per cent.) ..	10.4	9.4	0.22
Normal (per cent.)	11.9	10.7	0.06
Pentane—			
Iso (per cent.) ..	3.3	3.0	0.10
Normal (per cent.)	3.3	3.1	0.01
Hexanes + (per cent.)	3.0	3.2	0.5
N ₂ + O ₂ (per cent.) ..	0.96	1.19	3.7
Carbon Dioxide (per cent.) ..	0.94	0.35	0.98
Calorific value (B.Th.U./c. ft.) ..	2,160	2,089	..

F. Salt Beds

During 1964 salt was encountered in A.O.P. Ltd. Boree test bore at depth of 6,413 feet.

One hundred feet of gypsum was found immediately above the salt and dolomite and limestone beneath. The thickness of the salt was 1,544 feet.

Analyses—	1	2	3
Water (per cent.) ..	1.6	1.46	1.4
Potassium (per cent.) ..	0.037	0.17	0.047
Chlorine (per cent.) ..	58.7	57.2	46.8
Sulphate (per cent.) ..	0.79	1.44	6.3
Calcium (per cent.) ..	0.22	0.65	3.8
Magnesium (per cent.)	0.006	0.015	0.6
Iodine ..	..	Not detected	..
Boron ..	..	Not detected	..
Carbon Dioxide (per cent.) ..	Trace	Trace	2.0
Silica (per cent.) ..	0.13	1.10	5.6
Iron and Aluminium Oxides (per cent.)	0.20	0.42	2.0
Bromine (per cent.) ..	0.016	0.016	0.05
NaCl content (water free basis) (per cent.) ..	98.5	95.8	78.7

COAL AND COAL MINING

Samples of mine air were received from the collieries and visits were arranged by the Chief Inspector of Coal Mines and tests were made for the presence of CH₄, H₂S, CO, CO₂.

Diesel Engines

In connection with the use of Diesel engines in collieries the British figure for dilution of exhaust gas is 225 c.ft.m. of air per b.h.p.

The engine is tested under conditions simulating its demands when working in the mine, e.g.,

- (a) idling,
- (b) at full R.P.M.,
- (c) under load.

The exhaust gas is checked for CO, CO₂, SO₂, aldehydes and nitrous fumes. Attention is also directed to the temperature of exhaust gas and to provision of scrubbers to remove aldehydes and sulphur dioxide.

On occasions the temperature of an exhaust manifold can exceed the upper allowable limit, 200°C, and requires a water cooling jacket.

Diesel engines are only used in coal mines in specified areas.

Self contained breathing apparatus

A thorough examination of the apparatus used for mine rescue work showed some outfits to be defective because of the incidence of corrosion.

Strict attention to maintenance and the use of distilled water for washing jets, &c., and using dry oxygen should avoid the recurrence of the problem.

Two members of the staff visited the Mines Rescue Station at Booval to discuss the above aspects and functions of the apparatus with members of the committee and team members.

Coal

The coal and coal work continues to maintain pressure due to drilling projects maintained by the Mines Department.

Calorific value, proximate and ultimate analyses, ash, fusion point of ash, specific gravity, sulphur and swelling indices are usually required by the Government Geologist.

Large scale washability tests are carried out for the Coal Board to determine amenability of coal to treatment and analyses are required to check maintenance to quality of export and State supplies.

Moura coal (washed) which is now being shipped to Japan to the order of 1,000,000 tons a year, consistently conformed with contract requirements.

A typical analysis of the wash coal showed—

Moura coal (air dried)—	Per cent
Moisture ..	2.5
Volatile matter ..	25.7
Fixed Carbon ..	65.8
Ash ..	6.0
	100.0
Swelling Index ..	7
Sulphur—(per cent.) ..	0.6
Cal. Value B.Th.U./lb. ..	14,150

SHALES AND CLAYS

The Government Geologist submitted 82 samples of shale and clay for examination as to suitability for the manufacture of firebricks, building bricks, pipes, tiles and white ware.

OTHER DEPARTMENTS

The consultative and analytical work from Government Departments covered a range of industrial products, metals, concrete, cutlery, bricks, galvanised iron, solder, plated metal, corrosion problems, Golden Casket discs, reactivity of aggregate tests, &c.

Reactivity of aggregate

The potential reactivity of crushed samples of aggregate with alkalis in Portland cement was determined on a number of samples which are taken when surveys are made of local stone, gravel and sand available at or near to sites for dam and weir projects.

Aviation Oxygen

Oxygen supplied to the R.A.A.F. is regularly sampled and sent by the Directorate of Quality Control to the Laboratory for test.

The specification requirements are:—

Carbon Monoxide	..	less than 0.002 per cent.
Odour	..	nil
Oxygen	..	not less than 99.0 per cent.
Moisture	..	not greater than 0.020 grams per c. metre.

The oxygen usually ranges from 99.4 to 99.6 per cent. and samples consistently conformed with the standard.

The supply of oxygen to this quality ensures absence of iced-up tubes to pilots and navigators flying at high altitudes where temperatures average about - 60°F.

Hot water unit

An examination of the interior surface of a galvanised steel cylinder constructed with $\frac{1}{8}$ in. steel with $\frac{3}{16}$ in. domed steel ends showed a general distribution of rust tubercles which ranged from $\frac{1}{4}$ –3 in. height with bases $\frac{1}{4}$ –1½ in. width.

The interior surface still showed evidence of galvanising in some areas. However, removal of the tubercles showed soft patches underneath. Removal of this material revealed extensive pitting, which in some places was close to perforation of the wall.

A layer of basic zinc carbonate and rust had settled at the bottom of the cylinder.

Although the presence of carbon dioxide and oxygen in the feed water was a factor in the initial attack, zinc affords but little protection to any exposed steel in water at temperatures above 50°C.

In cold water zinc functions as the anode and becomes the sacrificial element, whereas in hot water the polarity is reversed.

Micro-biological growths

Of interest is the receipt of several samples of growths and tubercles which develop in penstocks, distribution tunnels, and mains associated with hydro-electric schemes and reservoirs.

These consisted of the dead organisms ("iron bacteria") whose sheaths contained iron and manganese hydroxides. The bonding of this material and subsequent formation of the tubercle give rise to corrosion conditions.

"Iron bacteria" use the organic compounds of iron and manganese contained in the water as a source of energy and at times the deposit on the membranes may consist of manganese hydroxide.

In many other fields such as aircraft maintenance constant vigilance is required to eliminate all forms of corrosion, particularly that due to biological agents such as bacteria, moulds and fungi.

SECTION 4

FEDERAL DEPARTMENTS, PUBLIC WORKS, QUEENSLAND HOUSING COMMISSION, STATE STORES, &c.

R. S. POTTER, A.R.A.C.I.—Officer in Charge

A detailed list of the samples examined by this Section is set out below:

Customs and Excise	..	..	1,342
Primary Industry (Commonwealth)	..	..	2,774
Queensland Housing Commission	..	..	5,858
Public Works Department	..	..	1,159
State Stores Board	..	..	702
Other Government Departments	..	..	111
			<hr/> 11,946

This number is approximately 200 below last year's record figure but is still well above other years.

The work for the Customs and Excise division has increased during this period and the officers associated with this work are fully extended. The advent of the new tariff has increased the work necessary to ensure correct classification of imports. Many new lines are being examined and this work will definitely increase in the future.

The Commonwealth Department of Primary Industry has also forwarded many more samples. During the year, there was a big increase in the number of egg pulp samples examined and the quality was well up to standard. Examinations for pesticide residues, particularly chlorinated hydrocarbons, were increased during the year and attention is now turning toward the detection of organic phosphates in meat and dairy products, and malathion in wheat. The usual coverage of dairy products—butter, cheese, milk and milk products, and flour, jams, honey, canned fruits, &c.—was maintained.

There was an above average amount of work carried out for the State Stores. The number of samples of textiles, both tender and delivery samples, increased approximately 20 per cent. during the year, covering some 60 different lines and the purchase of approximately three-quarters of a million yards of material. This work is increasing and it is hoped to purchase additional testing apparatus in the coming year. The usual variety of articles for Governmental use, such as throw-away pens, disinfectants, detergents, floor polishes, soaps, &c., were examined.

Paint samples from the Queensland Housing Commission and the Public Works Department still account for a large number of the samples examined. Although there was a drop of 1,000 samples submitted by the Queensland Housing Commission, a total of 7,245 paint samples were received. This work is very constant and the quality of the paint examined was well maintained; less than five per cent. of the number examined was below specification.

The examination of bitumen and road products, &c., previously carried out for the Main Roads Department is now carried out in their own Laboratory.

The usual coverage of serge samples, pocketing and linings was carried out for the Railway Department and a small number of samples was also examined for the hospitals boards.

The work of the Section is growing and both increased staff and accommodation must be found in the very near future in order to cope with requirements.

“THE EXPLOSIVES ACTS, 1952 TO 1963”

LEGISLATION

“The Explosives Regulations, 1955” were amended during the twelve-month period in a number of details relating to the importation, carriage, storage and use of explosives. Details are as follows:—

- 1. Regulation 38 Speed limits of vehicles carrying explosives.
- 2. Regulation 42 (1) .. Payment of storage charges.
- 3. Regulation 42 (3) .. No liability amendment.
- 4. Regulation 45 (2) (a) .. Storage.
- 5. Regulation 45 (2) (b) .. Bi-annual stocktaking.
- 6. Regulation 45 (22) (d) .. Sampling procedure.
- 7. Regulation 45 (22) (c) .. Sampling procedure.
- 8. Regulation 47 (1) (2) .. Storage exemptions.
- 9. Regulation 63 (1) .. S.A.A. Code.
- 10. Order in Council Prohibition of tracer ammunition.

The following explosives were classified by Order in Council and authorized for use in Queensland:—

Hercules Powder Co. Inc.	..	Vibrocap SR	
		Instadet	
		Vibronite B1	
		Vibronite S	
		Vibronite S Primer	
		Vibrogel.	
E.I. Du Pont de Nemours & Co.	..	Nitramon S-EL	
		Nitramon A	
		Nitramon WW	
		Nitramon WW-EL	
		Nitramite 1	
		Nitramite 2.	
Japan Explosives Export Association	..	Ammonia	Gelatine
		Dynamite	
		“Kiri”	
		Semi-Gelatine	Dyna-
		mite	
		“Katsura”	
		Carlit.	
Imperial Chemical Industries of Aust. & N.Z. Ltd.	..	Nobel Pistol Powder	
		No. 2	
		Nobel Pistol Powder	
		No. 3	
		Nobel Revolver Powder	
		No. 1	
		Nobel Rifle Powder	
		Nos. 0, 1, 2, 3	
		Rollex	
		Exactex.	

IMPORTATION

A total number of 140,975 cases (approx. 3,525 tons) of commercial explosives was imported into Queensland during the twelve-month period, of which 99,020 cases were of Australian manufacture. This total was slightly less than in the two previous years, due no doubt to the industrial trouble and to the increasing use of ammonium nitrate-fuel oil mixture as an explosive. Corresponding amounts of detonators, fuses and other blasting accessories were also imported.

The quality of imported explosives has been good, and the packaging satisfactory. Two additional overseas companies have had explosives authorized for use in the State.

All new brands of ammunition were sampled and forwarded to the Ballistics Section of the Police Department for testing, through the courtesy of the Commissioner of Police.

The port of Cairns was closed to the importation of explosives during the year, the only two points of entry by sea now being Port Alma and Bowen

MAGAZINES

The Field Inspector of Explosives has visited all three northern magazines during the year in the course of his duties, and the magazine at Helidon has been visited regularly. The railway siding into the Helidon magazine reserve has been re-built and has operated satisfactorily, thus obviating the unloading of explosives wagons in Helidon township. The siding into Brookhill bulk magazine near Townsville has also been relaid with heavier rails and will now carry diesel locomotives. Improvements have also been made to the Magazine Keepers’ residences at Helidon, Bajool and Brookhill, and it is hoped the road system inside the Helidon magazine reserve will receive some attention this year.

DESTRUCTION OF EXPLOSIVES

The following explosives were condemned and destroyed:—

Forty-eight Tonite rocket distress signals—deteriorated through age.

Three cases Quarry Monobel—found in a vacated building.

One and a half cases one inch Gelignite—recovered by police after having been stolen.

LICENCES AND FEES

The table below shows the licences issued or renewed and the fees collected during the 1964-65 twelve-month period:—

TABLE CXXX

Category	Number of Licences	Fees		
		£	s.	d.
Importation licence	62	310	0	0
Manufacture (ammonium nitrate/fuel oil)	75	225	0	0
Carry	32	96	0	0
Store—				
Category I	144	144	0	0
Category II	23	69	0	0
Category III	37	370	0	0
Category IV	15	45	0	0
Sell	89	178	0	0
Fruit Ripening	167	83	10	0
Importation (ammunition) .. ..	..	699	10	6
Importation (fireworks) .. ..	..	163	4	0
Magazine Storage Charges .. ..	..	11,755	4	0
Heat Testing Charges .. ..	..	568	10	0
Importation fees .. ..	..	1,782	12	0
		16,489	10	6

FIREWORKS

Importations of fireworks, interstate and from overseas, were sampled and tested and inspections were made of wholesale stores and retail shops prior to Commonwealth Day. Under the Explosives Regulations fireworks must conform to certain standards and are restricted in size and type and quantity of exploding composition.

FRUIT RIPENING

The building of new banana ripening rooms at the Rocklea markets and the transfer of some old rooms from the old Roma Street market site were supervised during the year. All rooms at Rocklea are operating satisfactorily. Ripening rooms in northern town are checked when these towns are visited in connection with explosives inspections.

CONFERENCE

The Chief Inspector and the Field Inspector attended the eighth Australian and New Zealand Explosives Conference held at Wellington, New Zealand. Proceedings of the conference will be available shortly in bound form.

DIVISION OF GERIATRICS

Director of Geriatrics: P. G. LIVINGSTONE, M.B., B.S. (Qld.), M.R.C.P. (Ed.)

Medical Officer: M. CHEONG, M.B., B.S. (Qld.)

GERIATRIC UNIT, PRINCESS ALEXANDRA HOSPITAL

The Unit has experienced many changes during the past year. There are 128 geriatric beds, consisting of 78 female beds and 50 male beds. The females are in two wards, an admission and assessment ward of 28 beds and 50 rehabilitation beds. In December, 1964, the beds occupied by female

patients in Ward S.5 reverted to male patients. There has been an overall loss of one bed due to some structural changes in the female rehabilitation ward, S.4.

Table CXXXI shows admissions to the Geriatric Unit for 1963-64 and 1964-65.

TABLE CXXXI
ADMISSIONS TO GERIATRIC UNIT AND WHERE FROM

Sex	Total		Princess Alexandra Hospital (Acute) Section		Princess Alexandra Hospital (Chronic) Section		Brisbane Hospital		Private Homes		Other Hospitals		Convalescent Homes		Country Hospitals		Repatriation General Hospital		Eventide Sandgate	
	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65
Males ..	295	300	159	146	2	13	73	64	48	51	9	15	..	5	1	5	2	..	1	1
Females ..	547	466	290	246	3	6	127	91	94	106	15	6	7	8	11	3	..	..	..	..
Totals ..	842	766	449	392	5	19	200	155	142	157	24	21	7	13	12	8	2	..	1	1

The table shows a reduction in the total number of patients treated in the Unit this financial year as compared with last. There is a very similar distribution of patients except perhaps a slight increase in the number referred by their private medical practitioners. This is a very encourag-

ing sign and it is hoped that, in the future, there will be an increasingly larger proportion of patients referred to the Geriatric Unit at an early stage.

Table CXXXII shows Discharges—Transfers—Deaths for 1963-64 and 1964-65.

TABLE CXXXII
DISCHARGES—TRANSFERS—DEATHS—GERIATRIC UNIT

Sex	Total		Home		Princess Alexandra Hospital (Acute) Section		Princess Alexandra Hospital (Chronic) Section		Eventide Sandgate		Brisbane Hospital		Other Hospitals		Died		Convalescent Homes	
	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65	63/64	64/65
Males	284	285	167	160	17	13	40	31	18	10	4	1	3	10	33	31	12	29
Females	512	426	237	207	32	29	56	65	20	14	6	6	9	13	77	53	75	40
Totals	796	711	404	367	49	42	96	96	38	24	10	7	12	23	110	84	87	69

Again there has been some slight reduction in total numbers compared with last year and again a similar distribution of patients and the places they were discharged to. The number of patients going from the Geriatric Unit to the chronic wards remains constant. The main bulk of patients are discharged to their own homes or the homes of their relatives. This high percentage of discharges back into the community has been made possible by the development of the Day Hospital. Here an average of 170 patients are treated each week. The average attendance of each patient is twice a week. It is interesting to note that of these 170 patients there is a fairly even distribution of sexes, 86 males and 84 females. This is in contrast to the much higher proportion of females as inpatients. The work of the Day Hospital has expanded. There have been a number of concerts held during the year which have been organised by the Princess Alexandra Hospital Women's Auxiliary. These concerts are greatly appreciated by both Day Patients and Inpatients. Small workshop activities have been organised, such as stamping envelopes for use in the Dispensary. It is hoped that other work activities will be commenced in the near future. Recreational activities for day patients have been organised by the Occupational Therapy Department and a small, miniature croquet rink has been established.

Experience in the Day Hospital has indicated that there is a need for Day Centres outside the hospital environment where patients who do not require further active treatment can attend a Centre where transport is provided and where there are some special facilities for disabled people. These Centres could be organised by voluntary agencies or could, perhaps, be held in buildings owned by Old People's Clubs. Progress is being made to establish such centres in two areas of Brisbane. Such development would enable the patients to be discharged at a much earlier stage from the Day Hospital and so increase the effectiveness of the treatment programme.

Also there are very disabled patients who are being looked after in their own homes who may require to attend hospital, to give their relatives a rest during the day and receive some form of treatment. These people are not suitable to attend an ordinary Day Hospital but if a Day Ward was established with some extra staff for this group of disabled, elderly patients, they would benefit from attendance.

The Day Hospital staff has been assisted by a number of voluntary workers, many of them being members of the Princess Alexandra Hospital Women's Auxiliary. We are very grateful for the help given by these women.

In January, 1965, a Speech Therapy Clinic was established in the Geriatric Unit with a full-time Junior Speech Therapist and a part-time Senior Speech Therapist. This Clinic has treated 106 patients with an average weekly attendance of 47 patients. Most of the patients attending suffer from some form of aphasia and many of them have benefited considerably from the treatment. It is interesting that the age range is from 18 to 80 years.

The Geriatric Unit has had a number of donations during the year. Two alternating pressure mattresses were donated by the Valley Lions Club. The Princess Alexandra Hospital Women's Auxiliary has donated many items for patients' comfort. Their assistance in providing morning teas in the Day Hospital, helpers and concerts has enabled a much wider arrangement of programmes and recreational activities for many of the patients. Recently Squibb and Sons have offered Audiometry Equipment for the Speech Therapy Clinic. To these people we offer our sincere thanks for their interest, help and donations during the year.

University students attend the Unit regularly. Medical students come in their 4th year as part of their Social and Preventive Medicine course, and in their 5th year to see certain aspects of rehabilitation and, finally, in small groups during their 6th year to attend rounds and be instructed in

various aspects of Geriatric medicine. Physiotherapy, Speech Therapy, Social Work and Occupational Therapy students attend the Unit throughout the year. This influx of students presents many problems but we are pleased to be able to make available our facilities for the training of medical and para-medical students.

The Splint Department within the hospital has again supplied a large number of splints to Geriatric patients. Most of these are double, below knee irons for hemiplegic patients but a variety of calipers, wires, splints and braces have also been provided. Over this period a new type of lightweight splint has been developed which is of great assistance for supporting arthritic knees. It is light and easy to apply.

The first monthly Clinical Meeting was held in the Geriatric Unit in November, 1964, and since then, on the last Wednesday of each month, a Seminar or Clinical Meeting has been held. This has helped to educate staff and interest others in the work of the Unit. Invitations are sent to para-medical staff in other hospitals and speakers are invited from University Departments as well as the hospital services.

"EVENTIDE," SANDGATE

The Director visits "Eventide" each month to advise of many aspects of patients' care. There has been considerable remodelling of some of the hospital wards with the inclusion of many facilities which are very suitable for the physically disabled. There has recently been a reorganisation of trained staff duties which will allow a much closer supervision of the hospital patients. Physiotherapy work in the home is continuing. The Physiotherapy Department is well equipped and many patients have benefited from treatment. A change has been proposed in the Application Forms for Admission and in some of the procedures of admission. These changes are necessary because of the large number of disabled patients who are admitted to the Home.

MEDICAL CONFERENCES

The Director attended a Conference at the Lidcombe State Hospital, Sydney, in April, 1965, on "Clinical Problems Among Aged Patients," at which he was invited to present a paper on "The Geriatric Unit". He also attended the first Congress of the Australian Association of Gerontology which was held in Canberra in May, 1965, at which he was asked to chair one of the Scientific Sessions. The Director has also been asked to prepare papers on "The Prevention and Treatment of Pressure Sores" and "The Role of the Multi-Purpose Health Visitor in Geriatric General Practice" for the National Health and Medical Research Council.

SOCIAL WORK SECTION

In January, 1965, a Social Worker was appointed to develop an Advisory and Co-ordination Section. Her first task was to become acquainted with all services for the elderly

in Brisbane. She has visited many of these centres and has collected information concerning the facilities and scope of each centre visited. She has also investigated 49 cases which have been referred direct to the Health Department. There have been no direct referrals from general practitioners. The development of this section is a great step forward in the public health aspects of a Geriatric Service. It is hoped that as this develops more and more, socio-medical problems pertaining to elderly patients will be referred at an early stage so that advice and treatment can be given in an endeavour to prevent deterioration and need for admission to an institution. It is hoped that as this service becomes better known to general practitioners, that they will be able to refer patients who would benefit from the advice and treatment given.

PYLONS AND PROSTHESES FOR ELDERLY AMPUTEES

Twenty-one patients have been provided with artificial limbs. This has enabled these elderly patients to achieve an ambulatory state that was previously not thought possible. One patient in his eighties who had bilateral, below knee amputations and previously had been supplied with knee pads has now been fitted with prostheses and is able to walk using only a single stick. There have been minor problems with the adequate fitting of the buckets and, in a few cases, there has been marked shrinking of the stumps which has necessitated a new bucket. Following discussions with a Rehabilitation Centre in New South Wales, a new type of bandaging has been instituted which it is hoped will produce more shrinking of the stump in a shorter time. Consideration has also been given to the fitting of temporary prostheses soon after amputation to achieve rapid shrinking of the stump and early discharge and independence of the patient. Discussions have taken place with the Repatriation Artificial Limb and Appliance Centre to see if these temporary prostheses could be produced at reasonable costs.

INVALID EQUIPMENT ON PERMANENT LOAN

Patients have continued to be supplied with modern type wheelchairs, hydraulic hoists, walking frames and crutches on permanent loan. This service has allowed many patients to be discharged from hospital and to be cared for in their homes or the homes of their relatives. Patients referred for such equipment are carefully assessed and only the most suitable equipment is recommended for individual patients.

PLANS FOR THE FUTURE

It is hoped to expand medical facilities at Eventide, Sandgate. Further developments are planned in the Public Health aspects of a Geriatric Service.

DIVISION OF NURSING

Adviser in Nursing: E. W. S. SULLIVAN, R.A.N.F.

VISITS TO COUNTRY HOSPITALS

The hospitals at Atherton, Beaudesert, Babinda, Biloela, Chermside, Handicapped Children's Unit, Cairns, Cooktown, Charleville, Gordonvale, Goondiwindi, Herberton, Hervey Bay, Kilcoy, Longreach, Maryborough, Mareeba, Mungindi, Muttaborra, Mt. Isa, Millmerran, Mt. Lofty, Mackay, Oakey, Quilpie, Stanthorpe, St. George, Toowoomba and Winton were visited during the year. All these hospitals are offering an excellent service to the public. The nursing staff in many of them is considerably depleted during the summer months, and those members of the staff who remain at the hospital and carry the extra work load are to be congratulated on their devotion to patient care.

INTERSTATE VISITS

The Adviser in Nursing, as the State representative on the Nursing Committee of the National Health and Medical Research Council, paid one visit to Sydney and another to Canberra to attend meetings. Domiciliary nursing and the number of paediatric and mothercraft trained nurses which should be employed in certain hospitals was discussed.

COLLEGE OF NURSING, AUSTRALIA

The Queensland Branch of the College conducted two courses in 1964—Nursing Administration Diploma Course and Diploma in Nursing Education Course. The number of qualified tutors in the State is still very low in comparison with the number required, and it is to be hoped that more nurses will avail themselves of the scholarships which will be available next year. The College will be conducting courses for Diploma in Nursing Education and Ward Sisters Diploma in 1966.

MATRONS' CONFERENCE

This Conference was held in Brisbane and was officially opened by the Hon. S. D. Tooth, Minister for Health, on 17th May. Seventy-six Matrons from hospitals and institutions

attended, and enjoyed a most comprehensive programme. A visit was paid to the Neuro-psychiatric Unit at Chermside. Doctors Stafford, Urquhart, and Brennan addressed the Matrons. The main theme of the talks was mental health and psychology. At the Brisbane Hospital those Matrons who are responsible for the X-ray sections of hospitals were given practical demonstrations in X-ray techniques by a team organised by Mr. K. Stephens, Health Radiation Physicist, whilst others visited the Children's Hospital and Resuscitation Unit.

The Matrons also gained much benefit from lectures given by Dr. Knyvett concerning modern drugs and by Dr. Fitzwater regarding cardiac emergencies. Sisters Hely-Wilson and Low demonstrated sterilization procedures for operating theatre equipment and Sister Jackson gave a most stimulating lecture "First Aid". Miss Broomfield spoke to the Matrons regarding the lecture to be given to student nurses in their fourth year on hospital administration.

Problems of administration and nurse teaching were discussed and were the subject of many resolutions forwarded to the Minister for consideration.

WASTAGE

The wastage of student nurses continues to be a most disturbing factor in hospital staffing. The survey conducted in 1964 revealed a slight increase in the overall wastage. However, a slight improvement occurred in wastage caused by "failure in examinations". In 1963 the percentage was 13.8 per cent. but in 1964 it was reduced to 8.2 per cent.

As the Matrons are continuing to give preference to those girls with higher education, we can hope that this figure will continue to reduce.

Details of the survey are contained in Table CXXXIII.

TABLE CXXXIII
WASTAGE OF STUDENT NURSES—QUEENSLAND

Hospital	Daily Average	Student Enrolment					Total Year 1964	Wastage of Students					Per-centage of Total	Age Groups						Educational Standard					Reasons Given for Leaving						
		1st	2nd	3rd	4th	5th		1st	2nd	3rd	4th	5th		17 and under	18	19	20	21+	Not known	8th and under	Sub. Jnr.	Jnr.	Above Jnr.	Not known	Not suited	Fail Exams	Per-sonal	Health	Dom-estic	Mar-riage	Others **
Atherton	59.39	32	7	7	8	..	54	1	2	2	2	7	13.0	.. 3	1	4	1	1	..	1	.. 1	6	..	..	1	2	..	..	1	3	..
Ayr	55.4	19	12	3	5	.. 4	39	1	6	..	..	7	17.9	..	..	..	..	..	..	3	..	3	..	..	..	..	..	..	3	1	..
Barcaldine	12.9	4	2	1	3	..	14	1	..	..	..	2	14.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Beaudesert	40.82	11	3	2	8	..	24	1	..	..	..	3	12.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Blackall	23.8	12	3	2	4	..	21	8	4	..	..	12	57.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Biloela	16.58	3	5	2	..	..	10	3	..	..	..	5	50.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bowen	18.15	8	6	2	..	..	19	3	2	..	..	5	26.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Brisbane General	1,018.23	509	167	127	105	..	908	90	43	21	7	161	17.7	51	56	31	13	10	..	9	26	117	9	..	35	11	16	..	9	69	..
Brisbane Women's	289.08	250	..	..	..	..	250	24	..	..	..	24	9.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bundaberg	135.87	28	21	7	27	..	104	7	10	4	..	21	20.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Cairns	174.28	38	27	15	28	..	108	22	7	6	..	37	34.3	10	11	8	5	4	1	8	3	21	..	10	13	..	..	..	..	..	..
Charleville	49.34	10	9	3	10	..	28	1	1	1	..	6	21.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Charters Towers	16.89	2	5	3	7	..	20	1	1	3	..	3	15.0	4	2	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..
Childers	17.26	7	3	..	3	..	13	2	..	..	..	2	14.3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Chinchilla	26.5	13	5	7	3	..	28	2	..	..	..	4	21.4	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Clermont	17.69	6	5	1	3	..	14	1	1	..	..	3	25.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Collinsville	18.03	5	2	6	3	..	16	1	1	..	..	4	17.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dalby	43.5	21	9	9	4	..	39	3	4	1	..	7	38.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gladstone	43.61	13	8	4	6	..	31	7	4	1	..	12	11.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Goondiwindi	32	11	11	1	6	..	26	..	1	1	..	2	3.39	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Greenslopes Repatriation	50.8	29	14	14	2	..	59	1	1	..	..	12	16.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Gympie	93.51	31	10	21	10	..	72	5	3	..	..	..	29.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Herberton	21.66	11	1	2	..	..	14	..	..	..	..	9	16.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ingham	45.76	15	6	4	11	..	31	6	3	..	..	25	33.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Innisfail	97.26	38	13	12	4	..	74	18	8	6	..	25	12.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Ipswich	167.6	46	33	24	46	..	149	10	1	..	..	1	12.5	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kilcoy	18	2	3	..	3	..	8	..	..	..	..	..	5.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Kingaroy	68.48	13	7	3	16	..	39	2	2	..	..	2	25.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Longreach	22.93	8	2	2	4	..	16	9	4	..	..	18	23.1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mackay	127.76	23	18	21	16	..	78	6	1	..	..	10	27.8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mareeba	65.6	15	8	6	7	..	36	12	8	3	..	23	19.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Maryborough	172.5	70	19	7	21	..	117	18	2	1	..	4	22.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Miles	22.48	5	4	2	7	..	8	2	2	..	..	2	25.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mitchell	21.0	5	..	1	2	..	11	4	..	..	..	7	63.6	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Monto	15.0	6	4	1	..	..	13	13	1	..	..	16	43.2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mossman	23.68	3	4	2	4	..	11	4	1	..	..	7	7.7	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Isa	62.17	17	5	6	9	..	37	4	3	..	..	9	30.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Mount Morgan	25.4	15	5	5	5	..	30	4	2	3	..	..	20.9	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Nambour	50	12	12	9	10	..	43	2	4	3	..	9	11.0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Princess Alexandra	1,136.83	265	170	139	180	..	754	35	28	14	6	83	11.0	9	26	18	13	17	..	5	1	59	18	11	7	16	11	3	14	21	..
(South Brisbane)	24.17	11	3	6	2	..	22	2	1	4	1	8	36.4	3	1	2	1	1	..	16	1	7	..	..	..	..	..	..	..	..	..
Proserpine	232	54	33	22	35	..	144	22	13	5	1	41	28.5	9	10	10	6	6	..	..	..	21	..	..	..	..	..	..	..	..	..
Rockhampton	78.83	9	11	12	11	..	43	4	7	3	1	15	34.9	2	..	..	..	..	..	..	..	3	..	12	2	6	10	4	2	15	..
Roma	60	10	13	11	14	..	48	5	1	2	2	9	18.8	1	..	..	..	..	..	..	..	7	..	..	..	..	..	..	..	..	..

** Dissected as follows:—

Left without notice ..
Left the district ..
Homesick ..
Another position ..
Transfer ..
Retired or Dismissed ..
Misdemeanour ..
Unsettled, unhappy ..

No reason given ..
Disinterested ..
Can't study ..
Train elsewhere ..
Asked to discontinue ..
Transfer to Assistant-in-Nursing ..

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DIVISION OF SOCIAL WORK

Senior Social Worker: M. K. WHILEY, B.A., Dip.Soc.Stud. (Melb.)

Social Workers: M. O'BRIEN, B.Soc.Stud. (Q'ld.) to Dec. 1964

E. DOBBYN, Dip.Soc.Stud. (Q'ld.) from Jan. 1965

One of the most noticeable trends in the extension of Health Services today is the recognition of the importance of the concept of community and family care for the very young, the mentally disordered, the sick and physically impaired and the elderly.

Prior to this decade, during the evolution of scientific health and medical services, many of these people when sick or in need might have been moved away from their familiar environment and warmth of family and friends, to be cared for in hospitals and special institutions. To-day, however, the emphasis is on the provision of more adequate care at home for those who need it in times of social and emotional stress or illness. In our own State the expansion of community based services has been especially important in the fields of public and mental health, in domiciliary nursing services, in the care of the aged, and in child welfare.

Within the health services the demand for social workers is ever increasing, but the Department is limited in the service which can be effectively offered to the community by the difficulties of obtaining sufficient staff with social work training. The effects of these difficulties seem particularly acute in fields such as the psychiatric services where assistance with patients' social problems should be an integral part of the patients' treatment and resettlement in the community.

In an attempt to alleviate the shortage of social workers, the Department offers scholarships for education in social work, and departmental facilities are made available to the University for practical training for social work students. Social workers in the Department co-operate closely with other social welfare services in order to avoid overlapping and wastage and to ensure as far as possible that skilled services will be available to those whose social needs are most urgent.

NEW DEVELOPMENTS

In spite of the shortage of social workers in all hospitals and departments, there have been some encouraging developments. The number of students enrolled for social work training at the University of Queensland is increasing. It is anticipated that twenty-seven (27) students now in their final year will graduate at the end of 1965.

This year, the first two social workers to graduate under the State Government Scholarship scheme took up appointments in the Department of Health and the State Children Department.

An interesting development has been the appointment of a social worker to a new position within the Department to work with the Director of Geriatrics. She will assist with the many social problems affecting old people in the community, especially the problems of those who are lonely or frail, or whose health and general well-being are at risk because of neglect. The more detailed analysis of this work given later in this report will be of interest.

SOCIAL WORK IN HOSPITALS

Social work in hospitals is still an important part of the work in this field. Social work departments continue to function in the Brisbane (General) Hospital, the Women's Hospital, Townsville, Toowoomba and Cairns Hospitals and a part-time service is offered at Mt. Isa. Unfortunately the Brisbane Hospital has had difficulty in recruiting staff this year. Consequently the demands on the existing staff have been heavy, and the service available to some sections of the hospital has had to be limited. Chermiside Hospital has also experienced difficulty in recruiting staff for a social work department within the hospital.

Princess Alexandra Hospital re-opened its social work department in February, 1965, when two social work graduates from the University of Queensland took up appointments at the hospital. In addition to the social work service available for patients in the Geriatric Unit, many other patients at this hospital may now discuss their problems with a social worker.

While visiting Rockhampton, the Senior Social Worker was able to explore something of the medical social work needs of the hospital in consultation with the Medical Superintendent. It is envisaged that a social work department will be opened at the Rockhampton Hospital as soon as staff and other resources are available.

YOUTH WELFARE AND GUIDANCE

Three social workers continue to work as members of the guidance teams at the Wilson Youth Hospital and the Welfare and Guidance Clinic, Brisbane. Much of their work has been with worried parents whose social problems were thought to be affecting their children's social and emotional adjustment. These have included problems of housing, finance and education as well as the many deviations in interpersonal relationships. In order to assist these families, social workers have maintained a close liaison with other health, educational and social services of the community.

PSYCHIATRIC SOCIAL WORK

Reference was made last year to the extension of social work in the mental health field. Unfortunately it has not been possible to expand this service to meet many pressing needs, but a limited service has continued and many psychiatric patients have been assisted with problems of personal and social adjustment. One important aspect of this work has been the early contact made by the social workers with some people living in the community and in need of psychiatric treatment or care. Through preventive work in the early phases of the illness and support during crises, some of these persons have been helped to seek treatment voluntarily, thus diminishing the need for later in-patient treatment.

Rehabilitation of the disabled has proved to be an area in which social casework can make a vital contribution. This is no less so when the patient is mentally ill. At the Brisbane Special Hospital much of the social worker's time is spent in assisting patients towards increasing independence and readjustment to their full community responsibilities. To carry out this work effectively the social worker has worked closely with voluntary organisations concerned with the well-being of the mentally ill and has assisted in promoting a better understanding of mental illness and rehabilitation.

For many mentally ill patients, the resettlement period following discharge from hospital is fraught with difficulties not experienced by the physically ill. These difficulties are often related to an inadequate community understanding of their condition and of their potential for rehabilitation after treatment. Significant evidence of this difference in community attitudes is in the area of the mentally ill patient's financial responsibilities. Unlike the physically disabled patient who may apply for Sickness Benefit when his earning capacity has been impaired by his admission to hospital, the mentally ill patient is ineligible for any Benefit or Pension during his compulsory stay in Special Hospital. Today most psychiatric in-patients leave Hospital after a relatively short period of treatment. The social worker would then hope to assist them to return to their normal environment. The absence of financial security during hospitalization can mitigate against the successful rehabilitation of a patient already under social stress. The difficulties seem unsurmountable if the discharged patient is faced with debts for rates, arrears in rent or in repayments on his housing loan, and other expenses which might have accumulated during his stay in hospital. There may even be distintegration of his family life. Similar social and financial difficulties confront the alcoholic patient on his return to the community after receiving treatment in the institution at Marburg.

During the year, Griffiths House, an after-care hostel for female patients, was opened at Ipswich by the Queensland Mental Welfare Association. This hostel has greatly facilitated the rehabilitation of a number of former hospital patients, many of whom have subsequently obtained employment or returned to live with their families after a short stay in the hostel.

In view of the general shortage of trained staff the Division is exploring the possibility of attracting experienced social workers from overseas.

SOCIAL WORK AND PUBLIC HEALTH

As public health services expand to include broader responsibilities for preventive mental and social health, a wider section of the community is being brought into contact with the Department often at a very personal level. Requests for assistance with medical aids or advice regarding sub-standard living conditions, health problems of small children, the care of the elderly or services for unmarried mothers, frequently require a confidential casework service if the problem is to be constructively overcome.

During the past five years, a service of this kind has developed within the social work section of the Department, and the ever increasing number of requests and the wide range of referring agencies indicate that it is now meeting an established need. The service functions independently of social casework services in Welfare and Guidance Clinics, Psychiatric Services and the State Children Department, although social work in the Department and in these other services is co-ordinated through the Senior Social Worker. With the limited staff, casework intake still has to be selective, and care has been taken where possible to avoid overlapping with social work services offered by other departments, hospitals, churches and charitable organisations in the community. In this way unmet social needs are brought to the notice of the Senior Social Worker and may be taken into account in considering priorities for expansion of social work services and in assessing the amount of specialisation necessary in social work in the health field.

A total of 199 new cases were referred to the social worker in this section during the year and 67 cases, carried forward from the previous year, received some attention. These cases included 42 new requests concerned with the care of the elderly, 40 new cases relating to child health problems referred by the School Health Services and 14 requests for emotional support and guidance to parents following the sudden death of an infant.

The majority of requests came to the social workers through other sections of the Department or through other State Government Departments. Of the others, 20 requests came from hospitals, 23 from other departments and voluntary social agencies, and 6 were referred by private medical practitioners. In 46 cases the client or an associate approached the social worker directly for service. In addition to this service the social workers were frequently consulted about specific problems by other officers of the Department, doctors, ministers of religion, staff of charitable organizations, or by other people concerned with the social well-being of persons in their care.

Space does not permit a detailed analysis of this work but the following areas will be of interest.

PARENTS AND YOUNG CHILDREN

Among the cases referred to social workers in the health field, one group, whose social conditions are cause for concern because their children's physical and emotional health is at risk, is comprised of unsupported mothers with very young children.

These include deserted mothers who have children under the age of three years, prisoners' families, and unmarried mothers who are attempting, for various personal reasons, to support themselves and provide care for a child. Medical evidence available over the past ten years indicates that a young child's emotional development is likely to suffer as a result of separation from his mother during the very early years. However, in working with these families in our own community, social workers find that such a separation is often necessary because of the lack of financial security for the mother who attempts to care for her own child.

Where a husband has deserted his wife and young family or is committed to prison, the wife who is caring for young children, is ineligible for a benefit or pension available to widowed mothers until six months after the desertion. During this first six months families may suffer real hardship and complete family breakdown may occur.

The unmarried mother has similar difficulties. Under certain circumstances she may receive a benefit prior to the birth of the baby and for six weeks after the child is born. This enables her to care for the child during that time, but she is then expected to make other arrangements so that she can work to support herself and her baby. Limited emergency relief assistance is available but it is usually inadequate for a long period. Voluntary organisations offer some assistance, but the problem is one which requires careful study so that children already deprived of a father will not suffer further hardship.

GERIATRICS

Since the community has become more aware of the needs of the elderly, many services for aged people have developed, including some services which will assist those old people who are able and wish to stay in their own homes.

The appointment of a social worker to work with the Director of Geriatrics is in keeping with these developments, and will enable many aged people to make constructive use of any special facilities available for them. This work entails close co-operation with social workers in hospitals and other health and psychiatric services and with domiciliary nursing and other community services.

The following is an analysis of the social work with geriatric patients during the first six months after the service was established:—

Number of cases—

Total number	..	..	..	..	..	49
New requests	..	..	..	..	..	42
Carried forward or re-opened from previous year						7

Source of referral—

Department (including cases carried forward)	12
Marjorie Warren Geriatric Unit	..
Hospitals	..
Other departments and social agencies	..
Private medical practitioner	..
Solicitor	..
Client or associate direct to social worker	..
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Service included social investigation relating to accommodation, financial circumstances, community involvement and occupational interests and to a wide range of physical and emotional disabilities. Social reports were made available for the Director of Geriatrics, other officers of the Department, other social agencies and private medical practitioners. In a number of requests for information on residential care of aged people a consultation service was offered and, where appropriate, other departments and social agencies were contacted regarding a specific request.

On the 30th June, 1965, 30 cases had received attention and the service had been completed, and 19 cases were currently receiving attention. This work will continue during the coming year and there will be opportunities to study the social needs of aged people in this community.

CHILD HEALTH

In its responsibility for a preventive health programme for school age children, the School Health Services Department extends its concern beyond the physical health needs of the child. This year, the Chief Medical Officer consulted with a social worker in 40 cases where family social problems were thought to be affecting the child. In a number of cases apparent indifference on the part of parents to their child's health problem had brought the child to the notice of the School Sister. In a few cases the problems were so pressing that the child's general health and well-being could be considered to be at risk. Other problems included poor school adjustment, irregular attendance, and educational retardation. In most cases parents had been informed of the school's concern and had been encouraged to seek further medical opinion through the normal medical facilities. In this work it has been the experience of the social worker that most parents do in fact desire to provide the best care for their children within the limits of their own resources. On the whole, parents do not neglect children's vision, hearing or general health once a possible impairment is indicated, but social stresses too difficult for the family to cope with may be responsible for their apparent indifference.

Frequently the social worker can offer a supportive relationship through which a family may be helped to function more adequately, and thus help to safeguard the children's health. In this work close liaison is maintained with other appropriate children's services.

"COT DEATHS"

Again this year a social worker has worked closely with medical officers in the Laboratory of Microbiology and Pathology visiting distressed parents as soon as possible after the sudden death of their infant.

In an attempt to diminish the shattering effect on parents who had lost a child in these circumstances, 14 families were contacted by a social worker who explained the reasons for investigations, outlined the procedure regarding the issuing of certificates and, where appropriate and necessary, offered reassurance to parents when they were anxious about the possibility of contributory neglect on their own part. In all cases, the evidence available later indicated that the child had died from natural causes, usually from respiratory or other infection. Although this has been a small part of the work of the Division, it has again been important in terms of alleviation of emotional distress.

In several cases the social worker was able to follow the contact through, offering emotional support so that parents could talk over feelings about the child and possibly feelings

of guilt over its death, or the effect on their relationship with other children in the family. Through this service it is hoped that family adjustment might also have been assisted following a distressing and potentially traumatic event.

CHEST CLINIC

The vacant position for a social worker at the Chest Clinic, Brisbane, still remains unfilled. Unfortunately, even the limited casework service previously offered for certain Chest Clinic patients has had to be further restricted. While the shortage of social workers persists, the Senior Social Worker is available for consultation by officers of the Division but many patients require a direct casework service which cannot be offered until suitable staff can be obtained.

LIAISON WITH OTHER WELFARE SERVICES

State Children Department.—During the past year the Senior Social Worker has continued to work closely with this Department particularly in relation to the preventive aspects of family and child welfare. It is understood that the new legislation in this field is soon to be introduced.

Department of Native Affairs.—The Aborigines and Torres Strait Islanders Legislation Committee, of which the Senior Social Worker was a member, completed its study during the year. The new Act "to promote the well-being and progressive development of the aboriginal inhabitants of the State and of the Torres Strait Islanders" was passed in May, 1965. However, even with new legislation, many part-aboriginal families will still present serious social problems. During a transitional period, continuing co-operation

will be necessary between social workers in the health services and officers of the Department of Native Affairs if the problems are to be overcome. Although the Committee has completed its work, the Senior Social Worker will continue to be available for consultation on these problems.

Voluntary Agencies.—This year the Department was able to offer assistance in a small number of cases known to the Australian Branch of International Social Service. In several of these cases families in other countries were concerned about a social problem which involved a member of the family living in Queensland.

Social workers in the Department and in clinics and hospitals have continued to take an active interest in many organisations in the community, including the Council of Social Service of Queensland and the Old Peoples' Welfare Council. In May, 1965, the Senior Social Worker attended the National Conference on the Rehabilitation of the Disabled in Melbourne.

SCHOLARSHIPS

Over the past four years a total of eleven (11) scholarships have been awarded to enable students to complete their social work training at the University of Queensland with a view to their working later in one of the health and medical services. The first of these students graduated this year and two more students will complete their studies and be available for employment in January, 1966. In view of the pressing need for development in this field and the present shortage of social workers, it is intended to increase the number of scholarships during the coming year.

FLYING SURGEON SERVICE

Flying Surgeon: CHRISTOPHER CUMMINS, F.R.C.S. (Edin.), F.R.A.C.S. (to Oct., 1964)

D. B. LEAMING, F.R.C.S. (Eng.), M.S. Univ.Durham

Anaesthetist: WALTER BIGGS, M.B., B.S. (Q'ld) (to January, 1965)

A. G. SMITH, M.B., B.S. (Q'ld)

Pilots: Captain JOHN WHITING

Captain JOHN BARTRUM

The organisation remains the same, and routine and emergency visits are made to Barcaldine, Blackall, Clermont, Cloncurry, Collinsville, Emerald, Hughenden, Julia Creek, Mt. Isa, Muttaborra, Quilpie, Richmond, Roma, Surat and Winton. In addition, it is proposed to visit Springsure, now that the airstrip is up to standard and Aramac now that there is a doctor there. Two visits a month are made to Mt. Isa where the Flying Surgeon was appointed visiting specialist in General Surgery and Urology.

A great deal of work has been done on the airstrips in the past year so that most of them are now all weather strips and many have a bitumen surface. Landing lights and non-directional radio beacons have recently been installed at Emerald, Clermont and Barcaldine and it is hoped that Blackall and Winton will be similarly equipped before the end of the year. The Department of Civil Aviation is to be congratulated on the tremendous improvements that have been made to these airstrips in Central Queensland.

The amount of work done by the Service appears to be increasing.

Year	Miles Flown	Total Patients	Operations	
			Routine	Emergency
1963	100,942	1,296	361	81
1964	93,963	1,140	362	83
1965 (to June) ..	60,207	1,120	275	71

Some of the increase may be apparent rather than real, as the figures may fall in the later part of the year, but there are no signs of this at the moment. It is probable that there is a great deal more work that could be done by the Service but as it is organised at the present time any further considerable increase is unlikely as the team is fully committed. Many cases which could be dealt with by the Service go away for treatment as the Flying Surgeon normally only visits each town once a month, and it is not possible to do so more often except in emergencies.

The work is immensely varied and interesting. The age of patients operated on in the first six months of this year ranged from 5 days to 92 years. The operations performed extended from the most minor procedure to an excision of the rectum. Most surgical specialities are represented in the work done—with orthopaedics, general surgery, and gynaecology at the top of the list.

The main problems are with the aircraft. It has proved impossible to keep the present aircraft fully operational for more than a few weeks at a time despite considerable extra time given over to special maintenance. The provision of spares for the aircraft is difficult, as delivery from America is slow and the charter firm is unable to keep a complete range of spares for just one aircraft. At the moment there is no relief pilot in Longreach and so the pilot is technically on call 24 hours a day 7 days a week. It is essential that the charter company keep the plane and pilot fully operational and that they arrange for the provision of a fully qualified standby pilot.

LEGISLATION

"The Clean Air Act of 1963" was assented to on 9th December, 1963. A Proclamation published in the *Government Gazette* of 8th May, 1965, fixed that day as the date on which this Act should come into operation in the Area of the City of Brisbane, as defined by "The City of Brisbane Acts, 1924 to 1959", and in the Local Authority Area of the City of Ipswich constituted under "The Local Government Acts, 1936 to 1964."

"The Health Acts, 1937 to 1962," were amended by "The Health Acts Amendment Act of 1964." The main amendments consisted of a new definition "Meat" for the purposes of the Act; prohibition of the sale of contraceptives by means of automatic machines; charging "The Queensland Radium Institute" with the duties and responsibilities of research into and concerning cancer, in addition to treatment as previously provided for; insertion of a new Part IVC empowering the Governor in Council to authorise a person to conduct scientific research and studies for the purpose of reducing morbidity or mortality and protecting such person and any person acting at his direction from being compelled to supply any such information or to make any report.

"The Poisons Regulations of 1958" were amended to prohibit the sale and use of amidopyrine and its derivatives—neo-cincophen and allyl-isopropylacetylurea and preparations containing any proportion of these drugs.

"The Food and Drug Regulations of 1957" and amendments were consolidated to become "The Food and Drug Regulations, 1964".

"The Sanitary Conveniences and Nightsoil Disposal Regulations of 1957" were amended to provide that where separate closet accommodation for each sex is required the accommodation shall be clearly designated. The Regulations were further amended to require temporary closet accommodation to be provided at every building under construction or other work in progress.

"The Radioactive Substances Regulations, 1961" were amended to exclude from the necessity of holding a Certificate of Registration of irradiating apparatus, a person acting under the supervision or instruction of a person who is the holder of a Certificate of Registration.

ACKNOWLEDGMENTS

I have much pleasure in recording my gratitude to all members of the staff for their loyal service, support, and conscientious attention to duty.

Acknowledgment is also made to the Agent-General for Queensland and his officers for the assistance given me whenever it was asked for, and to other Government Departments for their co-operation, particularly the Government Statistician who, as usual, has been of great assistance in preparing the vital statistics section of this report and has supplied other statistical details from time to time throughout the year. I would particularly thank the Commissioner of Police and his officers for their co-operation in the road accident research project.

Every assistance has been given by the President (Dr. Charles Roe) and members of Council of the Australian Medical Association, Queensland Branch, and I am indebted to them for the help they have given me. I also acknowledge the co-operation I have received from my colleagues in the profession.

I would also thank the members of the various expert committees who have given so freely of their time and advice.

I desire to acknowledge the co-operation I have received from the Medical Superintendents of the base hospitals and would particularly thank Dr. A. D. D. Pye, General Superintendent of the Brisbane Hospital, and Dr. O. W. Powell, Medical Superintendent of the Princess Alexandra Hospital for the assistance they have given during the year.

APPENDIX

ANNUAL REPORT OF THE NATIONAL MOSQUITO CONTROL COMMITTEE, 1964-1965

The work of the Committee includes identification of specimens and advice on mosquito problems for Local Authorities and others, and field and laboratory research into the systematics, biology and distribution of Queensland mosquitoes.

1. FIELD WORK

July 19, Binna Burra; August 15, Dyer's Lagoon, Laidley; September 20 and 24, Beerwah area; November 4, Samford; November 15, Montville; February 11, Southport; March 16-18, Noosa-Tewantin area; March 20, Camp Mountain; March 29-April 30, New Guinea.

Beerwah

Aedes burpengaryensis larvae were collected. Since early stages of this species are seldom found, another visit was made but the breeding place had dried out.

Southport

Aedes vigilax breeding places were inspected before and after a demonstration of aerial spraying. Larvae were killed but some pupae survived.

New Guinea

Dr. Marks was invited by the Bernice P. Bishop Museum, Honolulu, to join a mosquito-collecting team. Travelling expenses were provided by the Museum and work was mainly in the Wau and Lae areas. A large number of valuable specimens were obtained for our collection. Identification is not yet completed, but they include a new species of *Topomyia*. Mr. S. H. Christian, Malaria School, Kundiawa, undertook to complete the rearing of larvae and pupae, which could not be brought back alive to Australia.

2. PUBLICATIONS

The following papers and notes were published during the year:—

MARKS, E. N. 1964. Notes on the Subgenus *Chaetocruimyia* Theobald (Diptera: Culicidae). *Proc. Linn. Soc. N.S.W.* **89**: 131-147.

MARKS, E. N. 1964. The Subgenus *Ochlerotatus* in the Australian Region (Diptera: Culicidae). VII. Four New Species. *Pap. Dep. Ent. Univ. Qd* **2** (3): 59-71.

MARKS, E. N. 1964. The Conservation of Living Space for Native Fauna. *Proc. Roy. Soc. Qd* **75**: 73-79.

SLOOFF, R. and MARKS, E. N. 1965. Mosquitoes (Culicidae) biting a Fish (Periophthalmidae). *J. Med. Ent.* **2**: 16.

3. IDENTIFICATIONS

Valuable records and specimens have been obtained from material submitted for identification.

QUEENSLAND: M. Hawken (Mt. Cordeaux); J. T. Medler and G. Barrow (Mossman Gorge); M. J. Mackerras (Heron I.); C. Hembrow (North Ipswich); T. Young (Heron I.); G. B. Monteith (Redcliffe); S. McDonald (Masthead I.).

TASMANIA: I. C. Yeo.

NORTHERN TERRITORY: R.A.A.F., Darwin.

NEW GUINEA: J. Barrett, S. H. Christian.

SOLOMON IS.: R. Slooff.

Collections were also received for identification from Bishop Museum, Honolulu; D. F. Colless, C.S.I.R.O. Division of Entomology; D. J. Lee, School of Public Health and Tropical Medicine, Sydney.

The most interesting among these were specimens of *Aedes* (*Chaetocruimyia*) from New Guinea in collections from Bishop Museum and from D. F. Colless, as this subgenus was hitherto known only from Australia.

4. PUBLIC HEALTH

Collections of mosquitoes were identified for—

Townsville City Council

Mulgrave Shire Council (6 samples)

Rockhampton City Council

Toowoomba City Council

Belyando Shire Council

Warwick City Council

Mackay City Council

Cairns City Council

Other insects identified were—

Psychodidae (Moth-flies) for—

Cairns City Council (3 samples)

Emerald Shire Council

Blowflies and other flies for—

Brisbane City Council (3 samples)

Redlands Shire Council

Landsborough Shire Council

H. Hughes, Mt. Gravatt

Biting Lice for—

State Health Department

Fleas for—

Redlands Shire Council.

Mosquitoes in the Cairns area

Mulgrave Shire Council is engaged in a mosquito survey particularly in the area immediately north of Cairns where the nuisance is extremely bad. The samples submitted show that *Aedes lineatus* and *Aedes funereus* are often a worse pest here than *Aedes vigilax*, and larvae of *A. lineatus* were collected from shallow water in a freshwater swamp among timber off-cuts from a mill at East Stratford. Approximately 170 specimens were submitted in samples from September to June. These included 22 species, and the first record from Queensland of *Uranotaenia lateralis* breeding in crabholes (it was known from these sites elsewhere, and had been taken in pools in mangrove swamps in Queensland).

Specimens submitted by Cairns City Council in late March indicated that at that time *Mansonia uniformis* was the chief pest in the Aeroglen area.

A common name for a western Queensland pest mosquito

Residents of western Queensland frequently refer to the plagues of "Scotch Grey" mosquitoes occurring after heavy rains. Our records show that the common species at such times is a fairly large grey striped mosquito, *Aedes vittiger*, and the Health Inspector of Belyando Shire confirms that it is this species that is referred to as "Scotch Grey". This name should properly be applied to a larger but less numerous species, *Aedes* (*Macidus*) *alternans*, which can breed in both brackish and freshwater temporary pools. An appropriate common name for *Aedes vittiger* would be "grey striped mosquito".

5. MOSQUITOES IN A BRISBANE SUBURB

Collections by Mr. J. T. Brooks at Taringa show that *Aedes notoscriptus* persists as a minor domestic pest throughout the year. The first invasion of *Aedes vigilax* this summer occurred at the end of September; the greatest numbers of this species occurred at the end of December and of January; and a few were still about in late May. In this unusually dry summer few *Culex annulirostris* were taken, but *Culex fatigans* occurred fairly regularly in collections.

6. NOTES ON CULEX FATIGANS AND CULEX PIPIENS AUSTRALICUS IN NORTHERN AUSTRALIA AND NEW GUINEA

There is a world-wide interest in the *Culex pipiens* group of mosquitoes. Two members of this group are widespread in Queensland, *C. fatigans* which is the common domestic pest, and *C. pipiens australicus* which is a bird-biting species that seldom, if ever, bites man. Females and larvae of the two species are not easy to separate, but males are quite distinctive. *C. pipiens australicus* is attracted to light and therefore is sometimes taken in houses, and the larvae may be found in association with *C. fatigans* in suburban watercourses. The following notes were prepared by Dr. E. N. Marks from the Committee's records, for Dr. N. V. Dobrotworsky, University of Melbourne, who attended a WHO Seminar on the *Culex pipiens* complex—

Culex pipiens australicus is undoubtedly a native Australian species and occurs in many remote areas. It is also found in semi-domestic sites. It occurs in both sunlit and shaded water, though rarely in deep shade. It breeds throughout the year in Queensland; in July (mid-winter) in the Brisbane district the pupal stage occupies 4-5 days. Breeding places in south Queensland include springs, tea tree swamps, hoof prints at the edge of waterholes, lagoons, and swift running drains draining irrigated sugar-cane crops; it also quite quickly colonises leafy isolated pools left in small gullies which run only immediately after heavy rain, and grassy rainfilled depressions and wheel ruts. In north-west Queensland it has been collected in swampy pools filled from overflow of an artesian bore drain, and in seepages from domestic drainage.

An unusual larval record is from a treehole in a *Pisonia* tree on Wilson Island, an uninhabited coral cay in the Capricorn Group, where there is no fresh ground water; this was collected by Dr. A. B. Cribb in May 1964. *C.p. australicus* occurs 50 miles to the south-west on Curtis Island, a large island close to the mainland, and it seems more likely that the Wilson Island colony originated from windborne females than that it could survive for many seasons on Wilson Island, where however, sea-birds would provide a source of blood meals.

In Northern Territory *C.p. australicus* has been taken at Ayer's Rock, Mt. Olga and Finke River Gorge in Waterhouse Range during september; these localities, which have under 10-inch annual rainfall, are all west of Alice Springs, the most remote, Mt. Olga, being 300 miles south west of Alice Springs. The breeding sites were isolated rocky and sandy semipermanent pools, and similar pools in a watercourse with slight flow, most having emergent grass and green filamentous algal growth, one only rotting leaves and sticks; also a small shaded pool in a sandy creek bed and a rock hole 2 ft. 6 in. diameter and 2 ft. deep in sandstone with many drowned moths in it. Comparatively little collecting has been done in Northern Territory since *C.p. australicus* was recognised as distinct from *C. fatigans*, and these are the only definite records of it.

In Queensland *C.p. australicus* has not been collected on the east coast lowlands north of Rockhampton on the Tropic of Capricorn; the northernmost records of it are 10 miles north of Atherton, and 60 miles north-east of Normanton (it occurs also at Normanton); in Western Australia the northernmost record, Beagle Bay, is in approximately the same latitude. There can be no doubt that *C.p. australicus* is adapted to hot dry climates, but absence of it from the Queensland coast north of the Tropic, and from all areas north of about 17°S suggests that it may not be adapted to hot wet ones. It must be emphasised that much more collecting needs to be done before we can be certain about the limits of its distribution.

Culex fatigans in Queensland is always associated with man and occurs in almost all places with one or more inhabited dwellings. There is no information on how long it persists in such a site after man has departed. Thus there are many records from towns, station homesteads, mission stations, and native, settlements including Cape York Peninsula and Torres Strait Islands and it breeds throughout the year as far south as Brisbane. It occurs in similar places in Northern Territory and is widespread in New Guinea.

In Queensland besides the usual sites in polluted creeks and drains and smaller artificial containers such as tyres and tins, it has been taken in large treeholes, in underground concrete installations, and in domestic wells and watertanks; infestation of septic tanks causes considerable trouble. It breeds also in native wells, dug at the edge of swamps, and in 44-gal. drums, which are widely used as water containers on native settlements.

In New Guinea there are records at altitudes up to 5,500 ft. At Minj, altitude 5,100 ft., a common breeding place is holes in the ground made by the natives to cook pork, and subsequently filled by rain. On Daru Island, on the south coast, a heavy infestation occurred in a septic tank. In the Wewak area on the north coast, besides the usual polluted pools and 44-gal. drums, prolific breeding places are in large hollowed out logs used as village drums. In this area

Mr. H. Standfast reports that residual spraying of dwellings with dieldrin for control of anophelines was followed by an upsurge in numbers of *C. fatigans*, and a rapid increase in its dieldrin-resistance.

Since the above was written, two interesting records of *C. fatigans* were obtained. Mrs. T. Young collected larvae from treeholes on Heron Island at some distance from the residences, indicating that it may now be difficult to eradicate it from the island. In New Guinea *C. fatigans* was collected at Edie Creek, altitude 6,800 ft., where it was breeding in a pit latrine. This is an unusually high altitude for this species.

7. EDUCATION

The Health Inspectors Association of Australia, Queensland Branch has made a request for a course in Mosquito Trapping and Identification. Plans are in hand for three 2-week courses during 1966, two in Brisbane and one in Townsville, to be arranged by the Department of Entomology, University of Queensland, and conducted by the Committee's Senior Research Officer, Dr. E. N. Marks.

8. SYSTEMATICS

A revised key to Australian *Ochlerotatus* was produced during the year, and circulated to other workers for criticism. Work has continued for a check list of Australian mosquitoes, which is being prepared in collaboration with D. J. Lee. *Aedes* (*Verrallina*) were examined with Miss Huang during her visit; a paper on the Australian species is in preparation.

9. VISITORS

Mr. E. J. Britten, Department of Health, Western Australia.

Dr. W. Steffen, Bishop Museum, Honolulu, who worked on *Culex* (*Lophoceraomyia*) in the collection during 3 days in November and 2 weeks in March.

Miss Y-M. Huang, Bishop Museum, Honolulu, who worked on *Aedes* (*Verrallina*) in the collection during 2 weeks in March and 4 weeks in June.

Dr. P. F. Mattingly, British Museum (Natural History), who worked on the collection during 2 weeks in March.

The last three visitors also took part in field work at Noosa and Camp Mountain during March.

10. MISCELLANEOUS

Mosquitoes taken biting mud-skippers (small fish) in Solomon Islands by Dr. R. Slooff, were identified as *Aedes* (*Geoskusea*) *longiforceps*. This is the first authentic record of mosquitoes feeding on fish, and was published in a joint paper with Dr. Slooff.

Two talks on mosquitoes were given over the ABC network.

Warwick City Council has requested assistance with a mosquito survey early next summer.

Paratypes of new species described were distributed to other collections, and specimens were loaned for study to Dr. N. V. Dobrotworsky, University of Melbourne.

